RAILROAD

MAGAZINE | AUGUST 50c

1958

SUCCESS STORY:

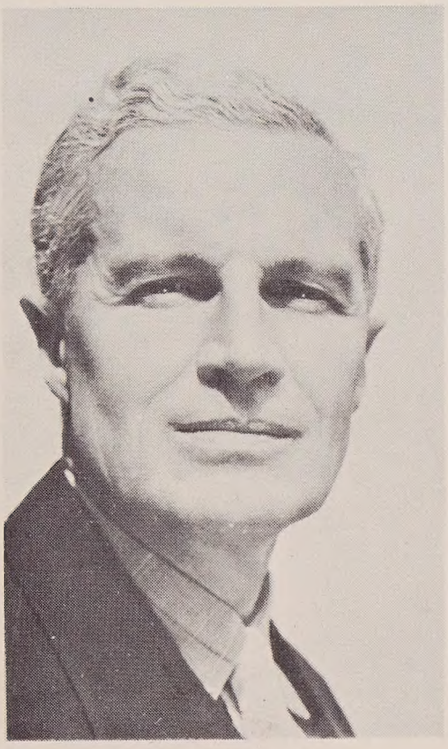
THE SUNSET LIMITED

The Florence & Cripple Creek Line

by LUCIUS BEEBE and CHARLES CLEGG

I'd like to give this to my fellow men...

while I am still able to help!



I was young once, as you may be—today I am older. Not too old to enjoy the fruits of my work, but older in the sense of being wiser. And once I was poor, desperately poor. Today almost any man can stretch his income to make ends meet. Today, there are few who hunger for bread and shelter. But in my youth I knew the pinch of poverty; the emptiness of hunger; the cold stare of the creditor who would not take excuses for money. Today, all that is past. And behind my city house, my summer home, my Cadillacs, my Winter-long vacations and my sense of independence—behind all the wealth of cash and deep inner satisfaction that I enjoy—there is one simple secret. It is this secret that I would like to impart to you. If you are satisfied with a humdrum life of service to another master, turn this page now—read no more. If you are interested in a fuller life, free from bosses, free from worries, free from fears, read further. This message may be meant for you.

By Victor B. Mason

I am printing my message in a magazine. It may come to the attention of thousands of eyes. But of all those thousands, only a few will have the vision to understand. Many may read; but of a thousand only you may have the intuition, the sensitivity, to understand that what I am writing may be intended for you—may be the tide that shapes your destiny, which, taken at the crest, carries you to levels of independence beyond the dreams of avarice.

Don't misunderstand me. There is no mysticism in this. I am not speaking of occult things; of innumerable laws of nature that will sweep you to success without effort on your part. That sort of talk is *rubbish!* And anyone who tries to tell you that you can *think* your way to riches without effort is a false friend. I am too much of a realist for that. And I hope you are.

I hope you are the kind of man—if you have read this far—who knows that anything worthwhile has to be *earned!* I hope you have learned that there is no reward without effort. If you have learned this, then you may be ready to take the next step in the development of your karma—you may be ready to learn and use the secret I have to impart.

I Have All The Money I Need

In my own life I have gone beyond the need of money. I have it. I have gone beyond the need of gain. I have two businesses that pay me an income well above any amount I have need for. And, in addition, I have the satisfaction—the deep satisfaction—of knowing that I have put more than three hundred other men in businesses of their own. Since I have no need for money, the greatest satisfaction I get from life, is sharing my secret of personal independence with others—seeing them achieve the same heights of happiness that have come into my own life.

Please don't misunderstand this statement. I am not a philanthropist. I believe that charity is something that no proud man will accept. I have never seen a man who was worth his salt who would accept something for nothing. I have never met a highly successful man whom the world respected who did not sacrifice something to gain his position. And, unless you are willing to make at least half the effort, I'm not interested in giving you a "leg up" to the achievement of your goal. Frankly, I'm going to charge you something for the secret I give you. Not a lot—but enough to make me believe that you are a little above the fellows who merely "wish" for success and are not willing to sacrifice something to get it.

A Fascinating and Peculiar Business

I have a business that is peculiar—one of my businesses. The unusual thing about it is that it is needed in every little community throughout this country. But it is a business that will never be invaded by the "big fellows". It has to be handled on a local basis. No giant octopus can ever gobble up the whole thing. No big combine is ever going to destroy it. It is essentially a "one man" business that can be operated without outside help. It is a business that is good summer and winter. It is a business that is growing each year. And, it is a business that can be started on an investment so small that it is within the reach of anyone who has a television set. But it has nothing to do with television.

This business has another peculiarity. It can be started at home in spare time. No risk to present job. No risk to present income. And no need to let anyone else know you are "on your own". It can be run as a spare time business for extra money. Or, as it grows to the point where it is paying more than your present salary, it can be expanded into a full time business—overnight. It can give you a sense of personal independence that will free you forever from the fear of lay-off, loss of job, depressions, or economic reverses.

Are You Mechanically Inclined?

While the operation of this business is partly automatic, it won't run itself. If you are to use it as a stepping stone to independence, you must be able to work with your hands, use such tools as hammer and screw driver, and enjoy getting into a pair of blue jeans and rolling up your sleeves. But two hours a day of manual work will keep your "factory" running 24 hours turning out a product that has a steady and ready sale in every community. A half dollar spent for raw materials can bring you six dollars in cash—six times a day.

In this message I'm not going to try to tell you the entire story. There is not enough space on this page. And, I am not going to ask you to spend a penny now to learn the secret. I'll send you all the information, free. If you are interested in becoming independent, in becoming your own boss, in knowing the sweet fruits of success as I know them, send me your name. That's all. Just your name. I won't ask you for a penny. I'll send you all the information about one of the most fascinating businesses you can imagine. With these facts, you will make your own investigation. You will check up on conditions in your neighborhood. You will weigh and analyze the whole proposition. Then, and then only, if you decide to take the next step, I'll allow you to invest $15.00. And even then, if you decide that your fifteen dollars has been badly invested I'll return it to you. Don't hesitate to send your name. I have no salesmen. I will merely write you a long letter and send you complete facts about the business I have found to be so successful. After that, you make the decisions.

Does Happiness Hang on Your Decision?

Don't put this off. It may be a coincidence that you are reading these words right now. Or, it may be a matter that is more deeply connected with your destiny than either of us can say. There is only one thing certain: If you have read this far you are interested in the kind of independence I enjoy. And if that is true, then you must take the next step. No coupon on this advertisement. If you don't think enough of your future happiness and prosperity to write your name on a postcard and mail it to me, forget the whole thing. But if you think there is a destiny that shapes men's lives, send your name now. What I send you may convince you of the truth of this proverb. And what I send you will not cost a penny, now or at any other time.

VICTOR B. MASON
1512 Jarvis Ave., Suite M-7-H
CHICAGO 26, ILLINOIS

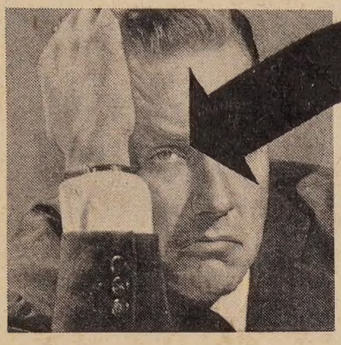
Can you profit by their mistakes?

"Not getting enough education"

You needn't make that mistake. You can get that better job, those big promotions, the regular raises that so many I.C.S. students report. And you can do it without "going to school," without interfering with your present job or your social life.

YOU can study with I.C.S. at home, in your spare time!

"Wrong choice of career"



When you study with I. C. S. you have 257 courses to choose from. And part of our job here at I. C. S. is not only giving you instruction but making sure you pick the course that's right for you!

YOU get expert guidance FREE from I.C.S.!

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RAILROAD MAGAZINE

THE MAGAZINE OF ADVENTUROUS RAILROADING—FOUNDED 1906

VOL. 69, NO. 5 AUGUST, 1958 50 CENTS

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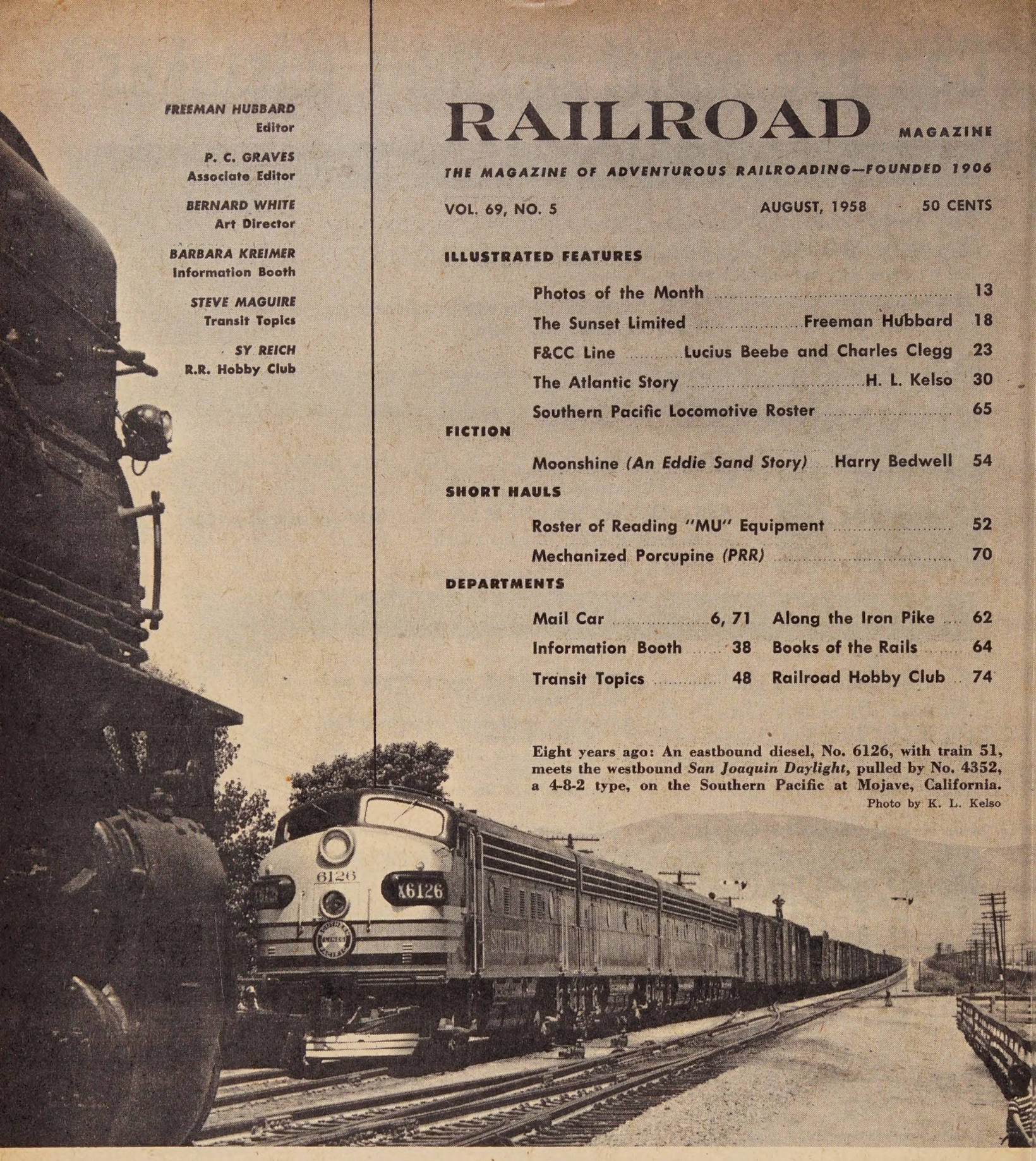

Eight years ago: An eastbound diesel, No. 6126, with train 51, meets the westbound *San Joaquin Daylight*, pulled by No. 4352, a 4-8-2 type, on the Southern Pacific at Mojave, California.

Photo by K. L. Kelso

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CHANGE OF ADDRESS: POSTMASTER—Please mail Form 3579 notices to: RAILROAD, 205 East 42nd Street, New York 17, N. Y.

Published bi-monthly by Popular Publications, Inc., at 1250 Camden Ave., S.W., Canton 6, Ohio. Editorial and executive offices, 205 East 42nd Street, New York 17, N. Y. Henry Steeger, President; John J. McVarish, Treasurer. Entered as second-class matter at the Post Office at Canton, Ohio.

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DIESEL OR BODY-FENDER training is included in your training program—at no extra cost. Only CTI offers this *extra* choice. Thousands of mechanics are needed in these top-pay fields.

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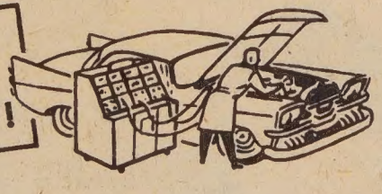
Many students start fixing cars soon after they enroll. They work "on their own" or in local shops, evenings and week-ends. They add to their incomes, earn enough to pay tuition. Some even earn enough extra cash to bank or to buy shop equipment. It's not unusual for students to have a going business by the time they graduate. CTI will send you information on how to earn as you learn, and get valuable experience, too.

GO IN BUSINESS FOR YOURSELF!



CTI trains you to become an all-around mechanic. You learn tune-up and overhaul; electric, cooling and lubricating systems; power steering and brakes; automatic transmissions; many other subjects. Such training paves the way to going in business for yourself. *Thousands of shops are needed.* With sound training and ambition, you could well become your own boss.

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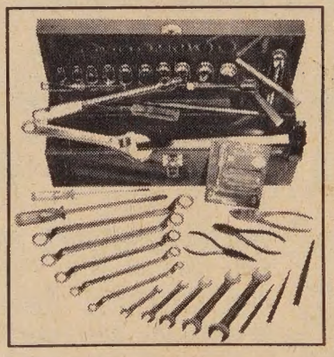
YOU PRACTICE—*YOU GET EXPERIENCE*—USING ENGINE TUNE-UP KIT AND TOOLS



RIGHT—These are instruments that skilled mechanics use to locate engine troubles. Kit includes Compression Tester; Vacuum Gauge and Fuel Pump Tester; Ignition Timing Light; and portable, steel case. Instruments are of top quality, professional in design.

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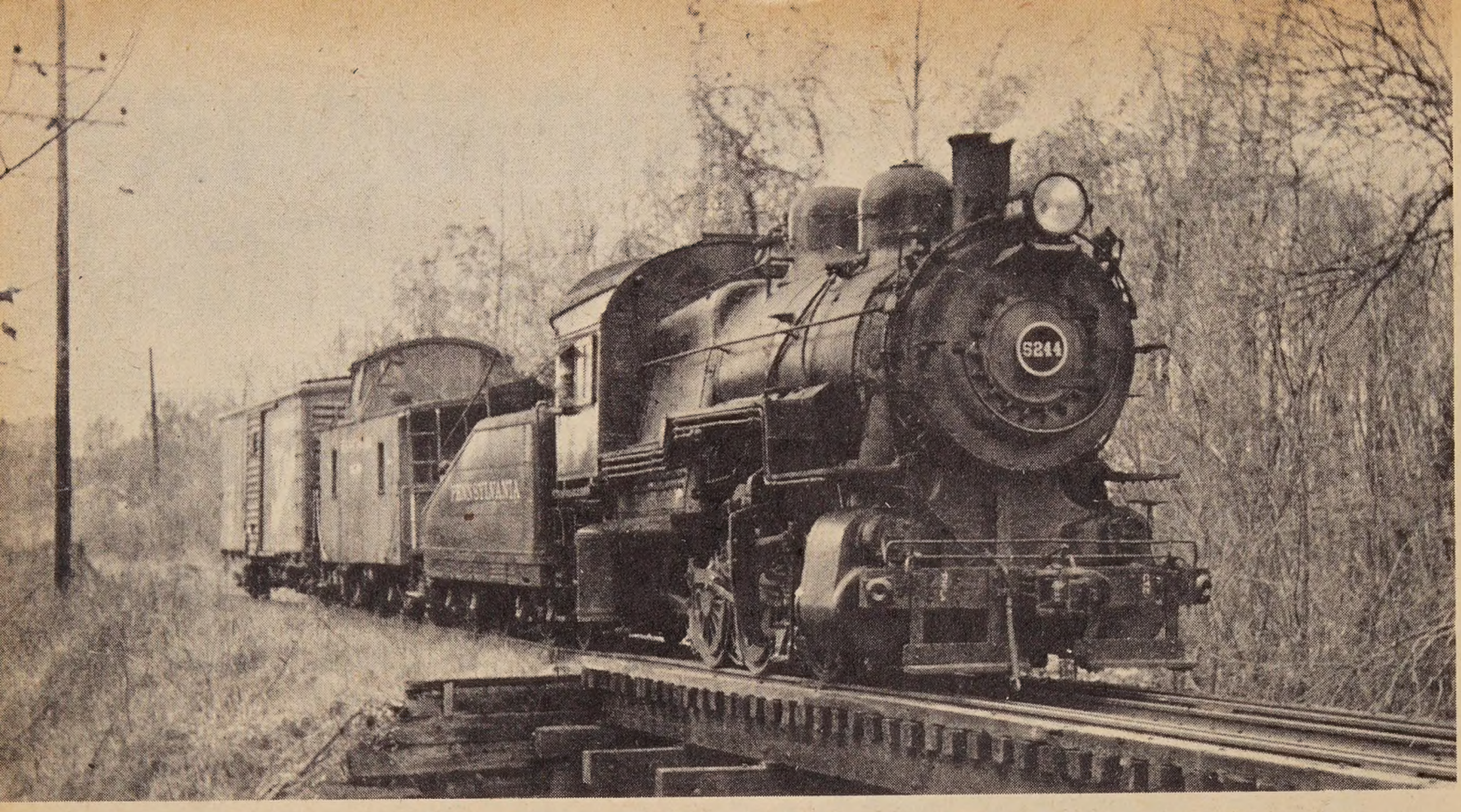


No. 5244, the last steam locomotive left in regular service in New Jersey, was photographed recently at New Egypt, N. J., on a 19-mile line, Union Transportation Company. So far as we know, she is the only Pennsylvania steamer in operation today. Built at Altoona shops, she is leased to UTC. What will happen next time she needs a repair job is anyones' guess. The Camden terminal of the Pennsylvania-Reading Seashore Lines, where such work used to be done, is now fully dieselized.
N. Kent Loudon, Holland Rd., Peapack, N.J.

MAIL CAR

Running Orders, Waybills, and Sandhouse Gossip—from Railroaders, Fans, and the Editorial Crew

OUR FRONT-COVER view of the *Sunset Limited* on the Rio Grande Bridge with steam engine 4452 was done in watercolors by Elizabeth Tone, 55 Vandam Street, New York City, before the crack train and, in fact, the entire Southern Pacific system were dieselized.

Elizabeth is a professional artist specializing in railroad subjects. She is petite, hazel-eyed, and pretty. Among other things, she did the watercolor picture of a locomotive that adorns the jacket of the recent Cabot LP record, *Songs of the Railroad*. Last November she sold railroad and interurban Christmas cards of her own design, but she hasn't decided yet whether or not to do the same this year.

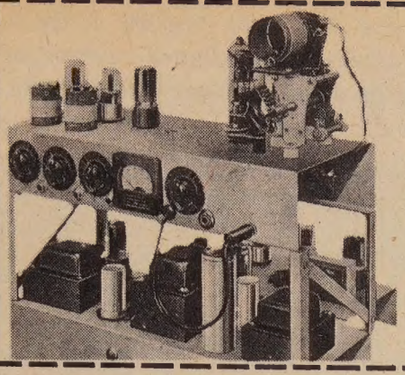
No. 4452, now retired, was a Class GS-4 acquired by the SP in 1942. Further details about the *Sunset Limited* may be found in our lead feature article. •

NORTHERNMOST place where this magazine is sold regularly, so far as we know, is Sutherland's drugstore at Yellowknife, a Canadian mining village in North West Territory. Readers who plan to visit Yellowknife because they can't buy *Railroad* from local newsdealers had better wear good hiking shoes. It's about 450 miles north of the nearest railway. •

DOES anyone know of a flagstop whose name has been changed more often than Echo, S. D., milepost 134.3 on the Minneapolis & St. Louis? Originally called Echo, it was renamed Empire, then Rose, and now Echo again. •

CANADIAN PACIFIC recently had advertisement in *The Province*, a daily newspaper of Vancouver, B. C.:

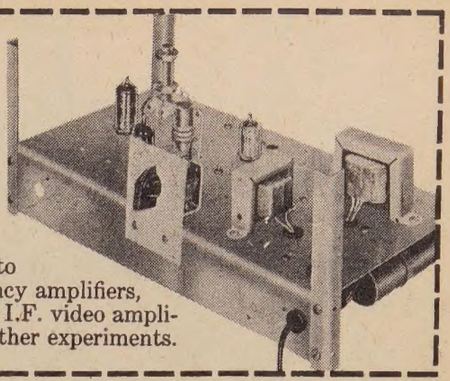
Front-cover artist, Elizabeth Tone.



YOU BUILD Broadcasting Transmitter

As part of N.R.I. Communications Course you build this low power Transmitter; use it to learn methods required of commercial broadcasting operators, train for FCC license.

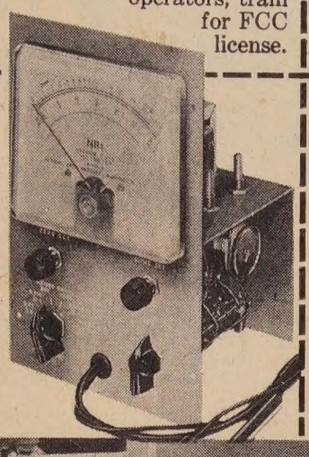
YOU BUILD Signal Generator



N.R.I. sends kits of parts to build this Signal Generator. You get practical experience, conduct tests to compensate Radio frequency amplifiers, practice aligning a typical I.F. video amplifier in TV circuit, many other experiments.

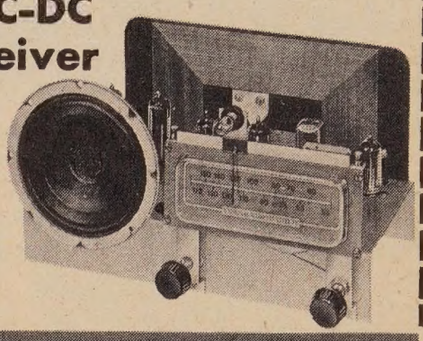
YOU BUILD Vacuum Tube Voltmeter

Use it to get practical experience, earn extra cash fixing neighbors' sets in spare time, gain knowledge to help you work in Radio, Television, Color TV. With N.R.I. training you work on circuits common to both Radio and TV. Equipment you build "brings to life" things you learn in N.R.I.'s easy-to-understand lessons. 64 page Catalog FREE, shows all equipment you get.



YOU BUILD AC-DC Superhet Receiver

N.R.I. servicing training supplies all parts, everything is yours to keep. Nothing takes the place of practical experience. You get actual servicing experience by practicing with this modern receiver; you learn-by-doing.

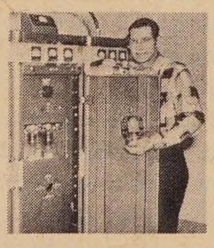


Learn RADIO TELEVISION by Practicing at Home

WHAT GRADUATES DO AND SAY

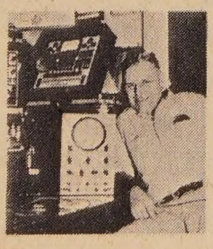
Chief Engineer

"I am Chief Engineer of Station KGCU in Mandan, N. D. I also have my own spare time business servicing high frequency two-way communications systems." R. BARNETT, Bismarck, North Dakota.



Paid for Instruments

"I am doing very well in spare time TV and Radio. Sometimes have three TV jobs waiting and also fix car Radios for garages. I paid for instruments out of earnings." G. F. SEAMAN, New York, N. Y.



Has Own TV Business

"We have an appliance store with our Radio and TV servicing, and get TV repairs. During my Army service, NRI training helped get me a top rated job." W. M. WEIDNER, Fairfax, South Dakota.

NEED FOR TECHNICIANS INCREASING

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It's the trained man who gets ahead. The fellow who uses his spare time to develop knowledge and skill gets the better job, drives a better car, lives in a better home, is respected for what he knows and can do. So plan now to get into Radio-TV.

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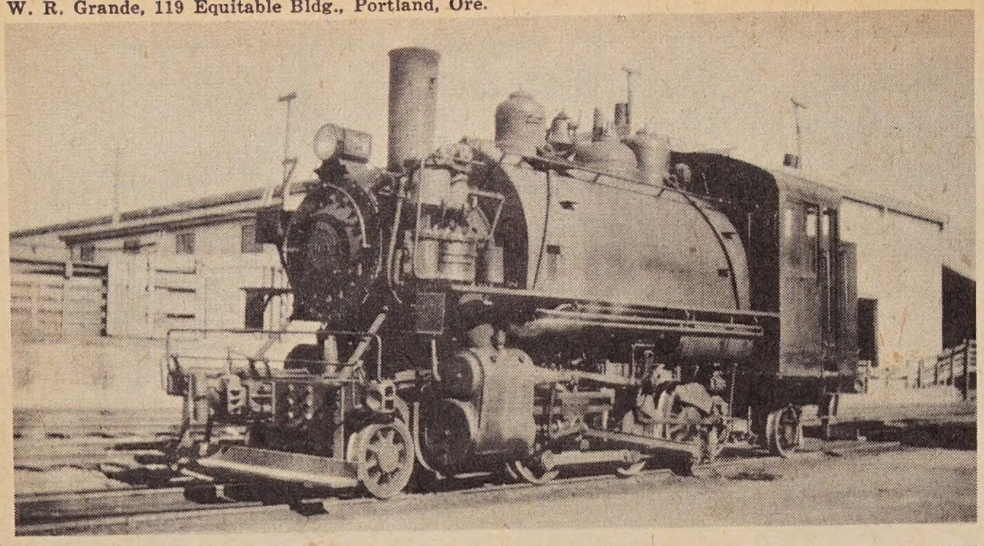
W. R. Grande, 119 Equitable Bldg., Portland, Ore.



The only live steamers on any railroad in or near Portland, Ore., are two 2-6-2T engines, Nos. 103 and 104, operating on the Peninsula Terminal Railroad, owned by Portland Union Stock Yards. The good-natured engineer interrupted his lunch to move 103 to an adjacent track, where light was better, so the above picture could be taken by W. R. Grande, who is secretary of the Pacific Northwest Chapter, NRHS.

IMPORTANT NOTICE. Because of terrorist activities in the Kootenays, we regret that in the interest of safety it is necessary to reduce passenger service between Penticton and Nelson and restrict schedules of all trains in the area to daylight operation . . .

We asked Ernie Plant, Box 40, Horseshoe Bay, B. C., and others, "What's going on up there, anyhow?" Back came the answer:

The blasting of tracks, bridges, and power poles along the Kettle Valley line in British Columbia, in addition to the burning of homes, schools, and barns, has finally forced the CPR to reduce all train service in the West Kootenay area to daylight runs only. The trouble zone is a 260-mile stretch of branch line between Nelson and Pendicton.

Over the years, 533 acts of depredation in that area have cost the railway and the B. C. Government almost $16 million, including the expense of court cases, investigations, and the posting of guards. The decision to cut rail service comes after a series of bombings this past February in which a passenger train carrying 25 people was derailed and much track was destroyed. The bombs are infernal machines that detonate when a heavy object such as a locomotive runs over them.

Police have traced the terrorism to a group of primitive Christians known as Doukhobors, or Sons of Freedom, who emgirated to western Canada from Russia in 1899, settled in the Kootenays in 1909, and engaged in communal farming. These people have their own way of life. For example, they oppose war and won't send their children to public school because they say it teaches them to kill by going to war. But Canada has compulsory education. To uphold it, the provincial government forcibly keeps many Doukhobor children in a special school near Brilliant, B. C.

The parents resent this. They resent many things about the government. At first they showed their resentment by parading naked, both men and women, along highways and into various towns. When passive resistance failed, they turned to violence.

The dynamiting of a day coach on a Canadian Pacific train at Farron, B. C., in 1924 killed nine persons, including the Russo-Canadian leader, Peter Veregrin. Law enforcement officers have been trying to catch the criminals, without much success. Meanwhile, the violence continues. The CPR is running rail-cars cautiously through the danger zone, in daytime only, and has laid off hundreds of its employes until the crisis ends. •

BRIEF NOTES. Aug. 8 and 15—Leave Winnipeg for Canadian National rail tour north to Hudson Bay. See Eskimos, white whales, historic old Fort Churchill. Movies, other entertainment aboard train. Read feature article in June '54 *Railroad Magazine*. Last year more than 500 persons made the trip. Details from any CNR agent or Joe Fountain, Canadian National Rys., 630 5th Ave., New York City.

A historic run ended March 12th, when the Atchison, Topeka & Santa Fe Railway discontinued passenger service between Atchison and Topeka, a 50-mile link built in 1850 between two cities in the company's name, reports LeRoy Palmer, retired telegrapher, Inglewood, Calif. (Many readers recall Mr. Palmer's fact articles and true tales in this magazine.)

Boston & Maine No. 3717 has been scrapped and is not being preserved as H. L. Kelso said in his article, "The Pacific Story," according to Thomas L. Tallentyre, 372 Probasco St., Cincinnati, O., who says he has checked with B&M. No. 3713, a P-4a, is B&M's last steamer; no plans have been made yet for her future.

During the depression of 1857-'58 the Illinois Central accepted millions of bushels of grain from farmers along its lines in lieu of cash as installment payments on land purchased.

More than 12,000 passengers a day are now traveling the entire distance between New York and Washington by rail as compared with 1,200 who fly, only 140 who ride buses, and an unknown number who use privately-owned automobiles.

Robert R. Young, who recently killed himself, was New York Central's last chairman of the board. Directors have abolished the job. It is rare for a big solvent road to have no board chairman.

Correction: Heaviest rail weighs 155 pounds per yard, not 136.2 as Barbara Kreimer said in June *Information Booth*.

For years the Pennsylvania RR. has had 152-pound rail on its lines between New York and Philadelphia, west to Pittsburgh, and even beyond. As it wears out, it is being replaced by 155-pound steel. The Duluth, Missabe & Iron Range also uses 155-pound rail.

At one place on the Trans-Australian Railway you can see a board sign on either side of the track marked (in Russian) "Railroad Crossing," yet there is not a road, fence, or house within dozens of miles of the place. •

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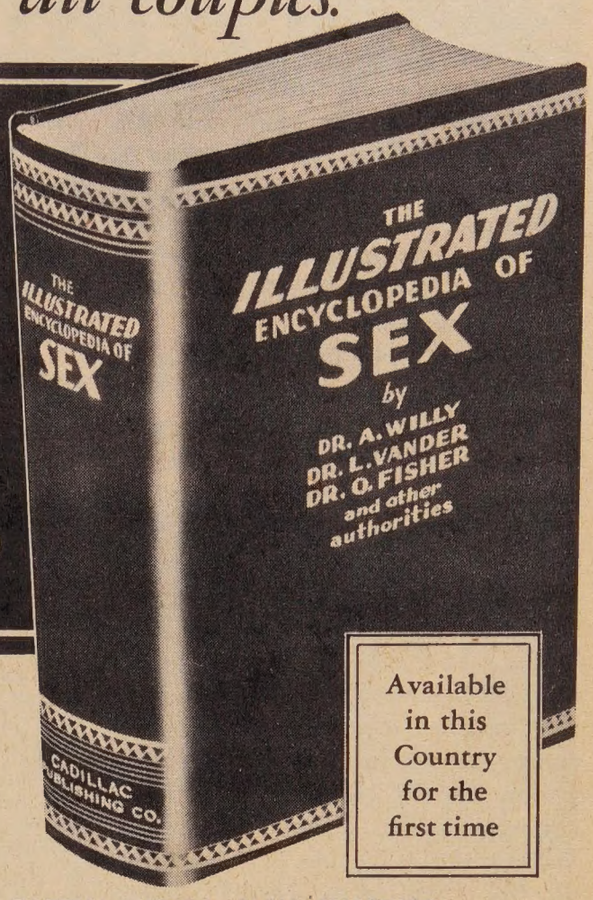

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railfan's dream, that fan being Edward M. Clark. His line is isolated from other roads, but he wants to connect it with the Boston & Maine by means of a covered bridge and a mile or so of 60-pound steel.

Ed has put nearly $7,000 and more than seven years of effort into the WMC, which boasts 3,000 feet of track, with a stub switch operated by a harp-style stand. He is currently building some new spurs. The road's secretary, Steven S. Hall, lives at 1032 Yale Station, New Haven, Conn.

"The WMC, with three engines, is the last citadel of geared power in New England," Steven enthuses. "From a nearby industrial road, the East Branch & Central, we acquired a Climax, old No. 6, and a Shay, old No. 5. The Shay is on display and will probably never run again. No. 6 is our passenger and heavy-freight hauler. No pains have been spared to make her New England's most photogenic iron horse. This summer we hope to use her in passenger service for the public. We also have ex-Koppers Co. No. 2, a light freight and work engine. Come up and see us!"

The EB&C at Lincoln, N. H., operates on full steam daily except Sunday, with No. 3, a Porter, and second No. 5. It is New Hampshire's last ICC-cab-card carrier. ●

A TELEGRAM urging an end to Federal taxes on passenger and freight transportation, sent by Kenneth Heafield, Isle Royale Location, Houghton, Mich., drew this reply from Senator Charles F. Potter of Michigan:

"As a member of the Federation for Railway Progress, I have been concerned over the recent rapid deterioration of railroad services, physical inventories, and net income. I am therefore taking the liberty of circulating your telegram among other individuals and groups who might feel a similar concern. I am confident that many of your constituents would welcome your leadership in acting decisively to preserve the hard core of rail transportation in the United States." ●

FREE meals are being served on Chesapeake & Ohio coach runs between Grand Rapids and Chicago on a 60-day experiment basis. With a regular $15.11 round-trip ticket you can get free breakfast on the morning run and free supper on the return trip at night—but only on Tuesdays and Wednesdays and only on trains leaving Grand Rapids.

Other roads are watching this experiment. The idea is to test the popularity of free meals such as airlines give their passengers. The Union Pacific serves free food, buffet style, on the "gambler" train between Los Angeles and Las Vegas. The Denver & Rio Grande Western offers an overnight "package" between Denver & Salt Lake City. A round trip with a lower berth in either direction, costing $61.52, includes the evening meal plus breakfast. ●

WHO is responsible for the increasing number of cuts in railroad passenger service? *Locomotive Engineers Journal* blames:

RAIL MANAGEMENT, for frequently compounding the trend by letting equip- and service deteriorate;

GOVERNMENT, for neglecting to recognize fully the role that the railroads play in adequate national security and failing to plan accordingly;

THE PUBLIC, for permitting the use of public funds to subsidize highways, airlines, and waterways far longer and in far greater measure than was needed for their development;

RAIL LABOR, for too often being solely concerned with existing jobs and wages rather than looking to the changing competitive situation; and

CONGRESS, for discriminating against the for-hire carriers by allowing the exise tax on passenger travel to continue, for delaying revisions of outmoded laws. ●

A long-time reader of *Railroad Magazine,* John W. Barriger, president of the Pittsburgh & Lake Erie, is reputed to have the world's largest privately-owned railroad library. He writes:

"I have been an interested cover-to-cover reader of *Railroad Magazine* since I first became interested in railroads as a boy in high school in St. Louis over 40 years ago. To my great regret, I did not start saving each issue of the magazine from that date.

"Even though it was a long time ago, I can remember some of the articles which I read at that time. I would like to see them again. Do your office files go as far back as 1916-'17? I remember that your magazine, which in those days was called *Railroad Man's Magazine,* had a series of articles appearing each month on the general subject of 'Big Railroading,' that I would like to read again, particularly the one descriptive of 'The Little Giant' (the P&LE) of that period, and also the one on the Pittsburgh Division of the Pennsylvania." ●

ITEM about the Chicago & North Western in our April issue has stirred up a hornet's nest.

"Such propaganda that C&NW station agents in South Dakota work only 15 minutes a day and are paid $30 to $150 per hour of actual working time is not only misleading but grossly exaggerated," snorts F. T. Gustafson, Kimball, S. D., who has been a brass pounder or station agent for about 50 years.

Jessee M. Grigg of Chicago looks back in memory. "By riding trains I managed two small railroad telegraph agencies 50 years ago. Even today a brother-in-law of mine, by using his automobile, manages two in CTC territory. But I can't believe any station agent works only 15 minutes a day. He needs that much time merely to sweep out the place."

Listen to R. G. Nugent, 243 Main St., Dansville, N. Y., who is the Erie's agent at Livonia, N. Y., besides handling the Lakeville and South Lima non-agency stations:

"Livonia is a one-man station, evidently like many of those that the C&NW would like to close. I timed myself on a quiet day to see how long I actually worked. Unlocking two doors, turning on lights, setting the thermometer on the oil stove, and taking the Erie and express money out of the safe consuming from 8 to 10 minutes. Yard check, another 10 minutes. (I also drive to Lakeville every day to make the yard check there, five miles round trip, about 15 minutes, but we won't count that.)

"I call Avon for car report, etc., 5 minutes. Then I go to the post office for mail, 5 minutes. Every person who comes in with something to ship or pick up usually takes from 3 to 5 minutes. Freight handling, 30 minutes to two hours. Miscellaneous trips, phone calls, etc., 15 minutes to an hour.

"Altogether, even on the quietest day, I am busy at company work at least 80 minutes, not counting weekly and monthly reports, which brings the average *for a quiet day* up to two or three hours. If space permitted, I could list other daily chores which add to this total. Store clerks are not busy every single minute they are on duty but are

(Continued on page 71)

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More Railroad Progress like this depends on adequate earnings

By welding sections of rail together in continuous lengths of steel, railroads often reduce track maintenance costs and give their customers a smoother ride. Above, workers lay the welded rail on ties.

Isn't this common sense?

Welded rail is just one example of the many ways railroads are constantly increasing their efficiency.

The railroads will continue to make such improvements — as rapidly as they are able to earn the money to pay for them. For the railroads must pay for improvements out of their own earnings. But the earning power of railroads today is restricted by outdated public policies that favor competing forms of transportation — at the expense of the railroads.

This unequal treatment causes the public to lose some of the benefits of railroad progress — progress as important to the nation as it is to the railroads.

In the interests of all of us, the railroads should be permitted equal opportunity to earn an adequate return on the money invested in them. Then everyone would benefit — including you.

Isn't this common sense?

AMERICA MOVES AHEAD WITH THE RAILROADS

Association of American Railroads, Washington, D. C.

YOUR BASIC TRANSPORTATION

Photos of the Month

Richard H. Kindig, 3831 Perry St., Denver, Colo.

Baltimore & Ohio 7109 and 7205, a simple and a compound 2-8-8-0, helping freight extra near Austen, W. Va., in 1949.

Milwaukee Road Magazine

Climbing 1.7 grade in Bitter Roots Mts., two "Little Joe" electric locomotives wheel 5800 tons of Milwaukee Road freight across the 202-foot-high Clear Creek Bridge 14 miles east of Avery, Idaho, with the aid of a four-unit 8000-hp. locomotive midway in train (not shown in photo). Little Joes, of which the road has 12, develop from 5000 to 5500 hp., depending on line voltage used. Picture was taken by Barry Kirk, the road's assistant electrical engineer with headquarters in Seattle.

William V. Finn, Long Island Rail Road

Retiring from the Long Island Rail Road after 52 years of service, Engineer George Eichhorn had company on his last run. Riding with him in the locomotive cab were Miss Dorothy Burch, 22-year-old blind girl, and her Seeing Eye dog Cara. Dorothy lives in Maspeth, L.I., N.Y. She had often traveled in George's train to visit her parents at Sayville and struck up a toot-and-wave friendship over the years. Whenever he saw her on a station platform he'd stop the train so that a car door was spotted exactly in front of the girl and her dog, but they never actually met till his last run on Thursday, February 27th.

Spain is still, for the most part, a citadel of steam power, as you might judge from this recent shot of Barcelona's main station, from which you take a train to Paris. The nationalized Spanish railways include 8,134 miles of 5½-foot gage. Engines are black, with red buffer beams. They burn briquettes and coal dust. Some lines are not nationalized.

B. A. Butt, Tregenna Hill, St. Ives, Cornwall, England

Memories of World War II: Two light Pacifics doublehead a Canadian National troop special with old wooden cars out of Levis, Quebec, across the Richelieu River Bridge,
G. Norman Lowe, Rail Photo Service, 93 Massachusetts Ave., Boston, Mass.

THE SUNSET LIMITED

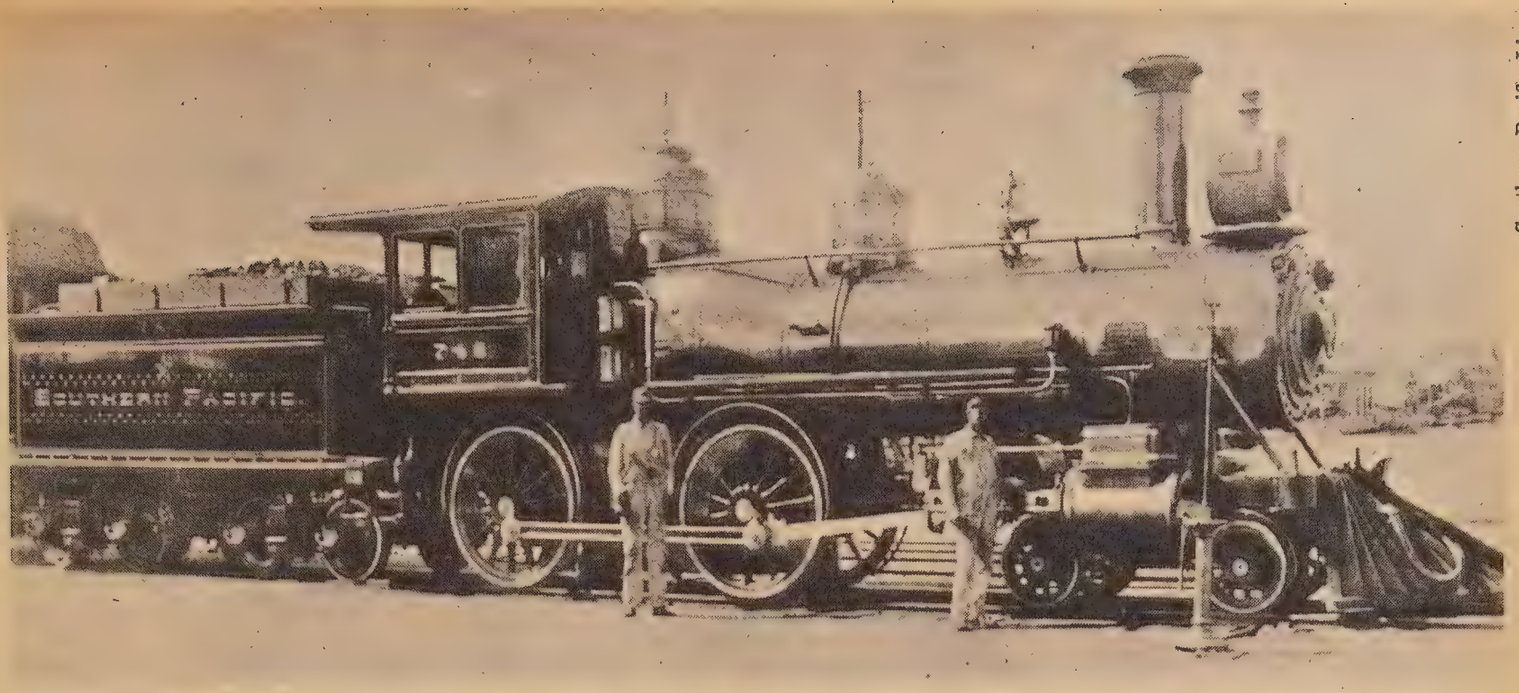
Despite Wars, Bandits, and Recessions, This Train Continues to Link New Orleans with the California Coast and Is One of the Southern Pacific's Top Money-Makers

by FREEMAN HUBBARD

PASSENGERS listening to soft music aboard the smooth, air-conditioned *Sunset Limited* today find it hard to realize the discomforts and peril that you had to put up with while riding between New Orleans and California in the days before rails were laid along what is now known as the Sunset Route. A century ago, the roundabout trip required weeks of jolting and rolling on "wooden-axle" trains, sailing ships, and stagecoaches.

The modern streamliner takes only 43½ hours. And does the public like it!! The *Sunset* is among the three top earners in the Southern Pacific's large fleet of crack passenger trains.

Framed by trees draped with Spanish moss, the bright *Sunset Limited* nears Morgan City in the Louisiana bayou country.



Southern Pacific Lines

No. 748, built by Schenectady in 1892, wheeled the *Sunset* between El Paso and Sanderson, Texas, on her very first run.

Last year it grossed $8,857,000 of revenue.

Back in 1894, shortly after the nation-wide railroad strike in which President Cleveland called out the Army to intimidate the strikers, the *Sunset* made its first gala run on November 25th as "the last word in elegance." This train of wooden cars with open vestibules, pulled by an eight-wheeler, was decorated in the rococco style of the period and illuminated with Pintsch gas chandeliers attached to the ceiling. Its ornate, pot-bellied, coal stoves had isinglass windows through which you could see the dancing amber flames within. Everything was cozy and luxurious.

Gleaming brass cuspidors littered the aisles. The diner boasted costly viands and an impressive list of French wines. Also wicket chairs and potted palms. The "ladies' compartment car" included a dainty parlor, seven sleeping rooms, and a library stocked with Laura Jean Libby, Bret Harte, Ouida, and other best-sellers of the day—plus, of course, a light-colored maid. No effort was spared to simulate a high-class hotel.

Originally the *Sunset* ran on a weekly schedule, and then twice a week. Long ago it became so popular that its operation was changed to daily, including Sunday, and it has remained on that basis ever since. For some years, before being placed on year-around service, the *Sunset* did not run in summer, which is really warm in that part of the country. At times it has had five different sets of numbers: 1000-1001, 25-26, 9-10, 1001-102, and 1-2.

THE FIRST step toward connecting the Gulf of Mexico with the Pacific Ocean by rail was made in 1851 when the Buffalo Bayou, Brazos & Colorado Railway (now part of the SP) started to build westward from Harrisburg, Texas. The following year ground was broken at Algiers, La., across the wide Mississippi River from New Orleans, for the second link in the present Sunset Route.

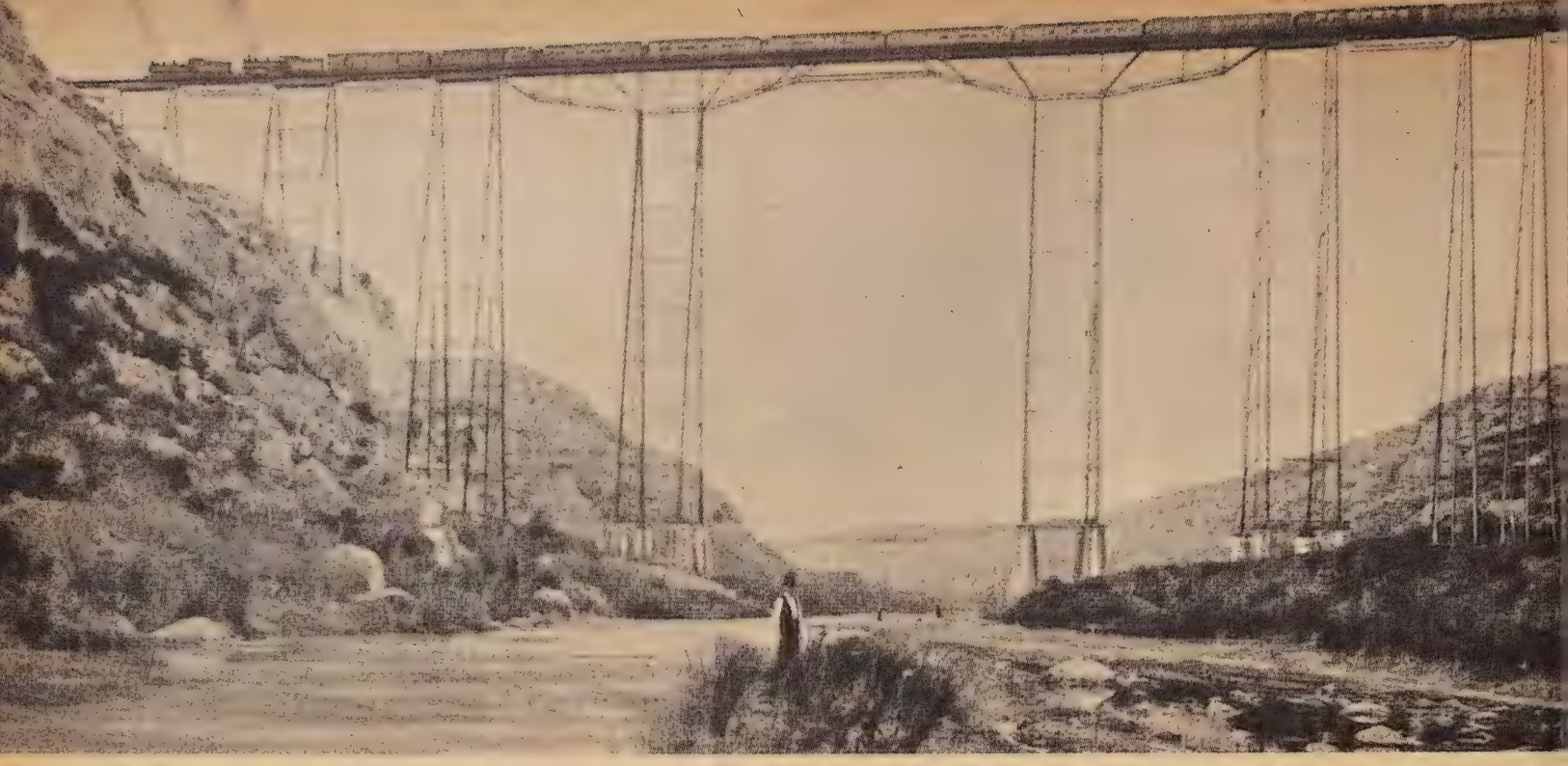
So catchy was the term "Sunset Route," even in 1877, that H. M. Hoxie, vice president of the competing Texas & Pacific, offered $10,000—a tidy sum in those days—for the name and emblem. This offer was made to H. B. Andrews, general manager of the Galveston, Harrisburg & San Antonio (an SP predecessor), who is credited with having coined the term and devised the emblem, but Mr. Andrews turned it down. The original name and insigne, with minor changes, are still in use today.

But it was not until February 5, 1883, that a golden spike was driven near the historic Pecos River in West Texas to mark the completion of the Sunset Route, and through passenger trains began to burnish the rails between New Orleans and San Francisco.

From 1894 till February, 1942, except for one year, the *Sunset* linked those two cities, first through the fertile San Joaquin Valley and later on the scenic coast route. Today, the western terminal is Los Angeles.

Like barnacles on a ship's bottom, many stories and legends cling to the *Sunset Limited.* On the hot Fourth of July in 1907 a movie outfit producing a silent melodrama filmed the train chasing a tin lizzie across the lofty Pecos Bridge in a desperate attempt to overtake a kidnapper and his lovely victim. The *Sunset's* fireman that day was Owen Vineyard, now a retired hogger living at Del Rio, Texas.

Vineyard recalls that the driver of the Ford crossed the long shaky bridge, with trepidation, at about ten miles an hour. The train rambled along behind, while he himself kept shoveling coal into the firebox so that great clouds of black smoke belching from the stack would heighen the dramatic effect. Halfway across the bridge, he recalls, the heroine fainted from the sultry weather and the excitement, and the cameras stopped grinding until she



A spectacular train trip in bygone days was over the old Pecos River Bridge, with its speed limit of 12 miles per hour. This old viaduct, 321 feet above ground, was the scene of a movie thriller, a wedding, and a daring girl's horseback ride.

was revived with spirits of ammonia.

Months later, Vineyard saw the picture in a local theater. "They speeded up the film to make it seem we were doing fifty miles per hour," he says. "Friends kidded me about it. The old bridge vibrated so much that we had a twelve-mile speed limit on it.

"We would bring the *Sunset* to a dead stop before crossing the canyon, but even at that one fireman refused to ride at such a dizzy height, 321 feet above ground. He'd climb down from the cab and walk across the spidery structure, forcing the engineer to wait for him at the other side. The mental strain became so great that eventually he gave up his seniority rights and took a job on another division."

COUPLES have been married in mighty strange places, that high bridge being one of them. B. J. McDowell of Del Rio wanted to put the ring on Miss Ada Upshaw's finger in a spectacular setting and he asked his brother, Judge C. K. McDowell, to tie the knot. So on September 5, 1907, the brothers rode the *Sunset* to Langtry, where Ada lived, and spent the night there. Next morning, with the bride, they boarded the same train. Conductor Billy Simpson stopped it on the bridge for a few minutes and served as best man while the judge performed the ceremony. Passengers craned their necks out of coach windows to see the wedding.

Legend has it that in the early 1890's Miss Patty Moorhead, a rancher's daughter, brashly rode across the Pecos Bridge on horseback with Ben Bendele, a tall, rawboned cowpuncher, using the narrow, steel-covered pathway adjacent to the rails.

That was daring enough, but, according to oldtimers, she really did risk her pretty neck at an earlier date when she rode her pony across that bridge alone. It was late afternoon. The girl was tired and did not feel like going twenty miles downstream to ford the river in order to get home. She had often walked the steel girders, using the

Three diesel units wheel the *Sunset Limited* across the Rio Grande at El Paso

covered pathway, and saw no reason why her pony couldn't do the same. So she tried it.

Halfway across, the pony caught a foot between the ties. While she was liberating it, Patty heard the clear melodious whistle of the oncoming *Sunset Limited* in the distance. She was frantic but managed to free the hoof and reach the other side well in advance of the train.

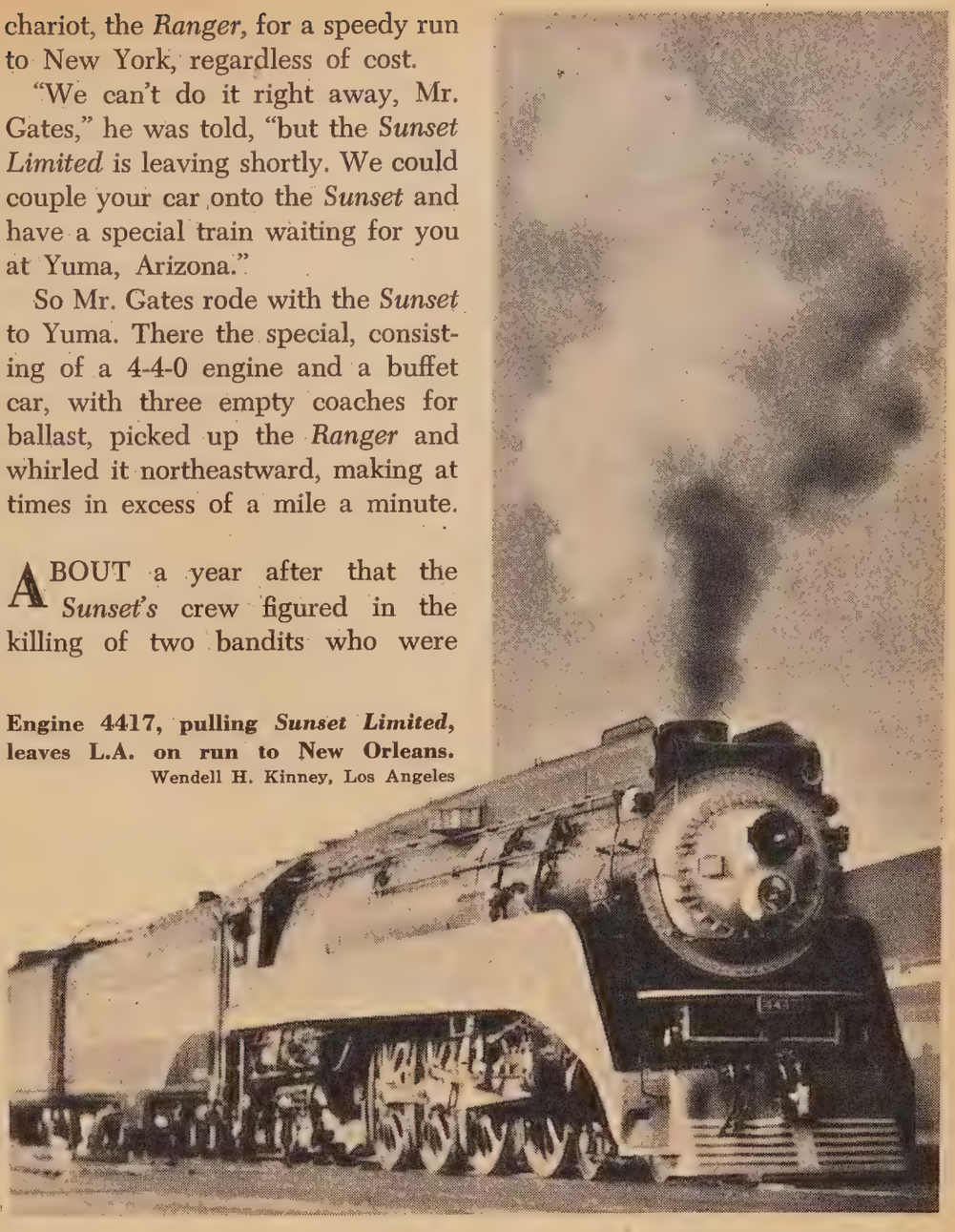
The rancher's daughter was a favorite of early *Sunset* crews. They would toss out the daily newspaper as they passed her home—and she remembered that, years later. Her father never let the railroad use water from a large spring on his property, although engine crews several times asked for such permission, but after his death Patty signed a contract giving them access to it for the rest of her life.

Time was when men of wealth liked to gad about the country in their private railroad cars—as Lucius Beebe and Charles Clegg do today—that being the fastest and most fastidious form of travel then available. One such man was Charles G. Gates, a New York stock broker. Mr. Gates fell sick on February 16, 1911, while visiting San Diego, Calif., and wanted to get home quickly. He requested the Southern Pacific to make up a special train with his personal chariot, the *Ranger*, for a speedy run to New York, regardless of cost.

"We can't do it right away, Mr. Gates," he was told, "but the *Sunset Limited* is leaving shortly. We could couple your car onto the *Sunset* and have a special train waiting for you at Yuma, Arizona."

So Mr. Gates rode with the *Sunset* to Yuma. There the special, consisting of a 4-4-0 engine and a buffet car, with three empty coaches for ballast, picked up the *Ranger* and whirled it northeastward, making at times in excess of a mile a minute.

ABOUT a year after that the *Sunset's* crew figured in the killing of two bandits who were engaged in the last recorded robbery of a Southern Pacific train in Texas.



Engine 4417, pulling *Sunset Limited*, leaves L.A. on run to New Orleans.
Wendell H. Kinney, Los Angeles

on the same bridge that is shown on our front cover in the days of steam power.

It was a dark night, March 13, 1912. The train had been delayed at Del Rio, and Engineer D. E. Grosh made the water stop at Dryden as brief as possible so he could catch up to his schedule. Grosh widened on the throttle.

Back in the express car David A. Trousdale, the express messenger, listened to the pounding of driving wheels as the engine gained momentum for an ascending grade. His helper, a man named Reagan, checked the express shipments for unloading at the next stop. Trousdale closed the side door of the car and set to work on his reports.

Meanwhile, two masked men,

lurking in the dark shadow of the dripping water tower, had climbed into the tender just as the train was pulling out. Suddenly they appeared out of nowhere and held Grosh and his fireman at gun point.

"Do as you are told," said one, who was later identified as Ben Kilpatrick from Wyoming's "Hole in the Wall" gang. "Keep the train running till I tell you to stop!"

Grosh had no desire to be a dead hero. He took the *Sunset* past the little frame depot at Mendota and down a long grade that led into a winding canyon, and Ben said:

"Stop with your passenger cars on the trestle!! I want only the engine and mail and express cars left on solid ground."

The hogger did just that. Then the train porter, acting under instructions from the desperados, uncoupled the head end from the rest of the train. After that, Ben told Grosh to ask the express messenger to open his car door. Dave Trousdale, peering out cautiously, found himself facing a Winchester rifle.

"Okay, hit the dirt!"

Trousdale swung down to the ground, followed by Reagan and M. E. Banks, the mail clerk.

Ben turned to Grosh and the porter. "You fellows go back and stay with the passengers. Poke your heads out and we'll blow them off!"

The two outlaws then pushed the express men and the mail clerk into the engine cab and climbed in beside them, and Ben ordered:

"Now get going!"

Grosh released his air brake and opened the throttle. He wheeled the two head-end cars several miles down the track and stopped. Then Trousdale dialed the safe.

"I had only seven money waybills in the safe and convinced the bandits that only two of them were of value," he wrote later in a report to his boss, the superintendent of Wells, Fargo & Company. "I handed two packages to the robbers, one valued at two dollars and the other at $37. The bandits ordered us into the mail cars, where they opened the registered mail, and the leader said he was taking me across the river into Mexico."

Trousdale winced at this threat. So he'd help them to carry the loot across the border and then probably be shot for his pains! But he answered casually: "Have it your way. I'm not being paid to fight."

Ben vanished into the night. Trousdale went into the express car with the other stickup man, who turned out to be Frank Hobek. As he walked through the car he noticed an ice maul that lay on a barrel near a sack of oysters. Grabbing it surreptitiously, he hid the mallet under his overcoat and called Hobek's attention to a package on the floor.

"That's the one with the money."

As Hobek leaned over to pick it up, Trousdale whacked his head so hard that the blow killed him. The messenger then took possession of Hobek's riffle for himself and handed the dead bandit's two six-shooters to Banks and Reagan. After that, the three men switched off the lights in the car to wait for the other outlaw.

For a long time nothing happened. Trousdale whispered to his companions, "This'll bring him," and fired a shot at the car roof. Sure enough, it brought Ben Kilpatrick on the run. Ben stood outside the open door of the car and called up:

"Is that you, Frank?"

Those were his last words. A volley of shots felled him with a gurgling groan. Later, Trousdale was rewarded with a gold medal, a gold watch, and $1,500 in cash.

KILPATRICK and Hobek made the fatal mistake of not realizing that by 1912 the Wild West technique had become an anachronism. What really put an end to train stickups, was modernization. Streamlining did away with open vestibules, while the telephone, radio, airplane, etc., made the bandit on horseback look like a comic opera.

The *Sunset Limited* has steadily kept pace with the best in passenger equipment over the years. There are five *Sunset* trains in daily service, each one making the 2,000-mile run across the Louisiana bayou country, through the Texas industrial and oil empire, and across the sprawling, color-rich desert lands of New Mexico and Arizona to the City of the Angels.

These trains were dieslized on August 20, 1950, and were given complete sets of new Budd cars built almost entirely of stainless steel. The continuous red band of steam-power days, as pictured on the current *Railroad Magazine* cover, has been retained in a modified form in the present equipment.

For nearly sixty-three years this big-name train has carried on despite wars, bandits, automobiles, airplanes, recessions, and finally the eclipse of steam power. It's a beautiful train operating on a fast schedule.

Today it remains one of the Southern Pacific's top money-makers and its popularity bid fair to continue until the last flag of a passenger run is whistled in. ●

The *Sunset* is one of Southern Pacific's three most profitable passenger runs.

L. C. McClure, Denver Public Library Western Collection (R. H. Kindig)

F&CC No. 12 with excursion train near Alta Vista, Colo., in 1906.

The Florence & Cripple Creek Line

(Adapted from new book, "Narrow Gauge in the Rockies," to be published June '58 by Howell North Press, Berkeley, Calif.)

by LUCIUS BEEBE and CHARLES CLEGG

It Was the Last Gold-and-Silver Bonanza Narrow-Gauge to Be Built and the Shortest-Lived of All Its Colorado Contemporaries but It Had a Glorious Noontide of Prosperity

SERVING the Cripple Creek mining district and connecting with the Denver & Rio Grande at Florence in the Arkansas Valley, the Florence & Cripple Creek Railroad was the last narrow-gauge construction in Colorado to conform to the conventional and established pattern of three-foot carriers built for the primary purpose of achieving bonanzas in precious metals.

The Uintah, built along the Utah-Colorado marches more than a decade after the Florence & Cripple Creek, didn't follow the gold and silver pattern but deviated to transport gilsonite. The F&CC was the first slim-gauge in the classic manner of the South Park, the Rio Grande Southern, the Otto Mears short lines, and the prototypal D&RG. Its objective was basic, a traffic in ores and tangible wealth of gold.

Before the region on the far side of Pike's Peak from Colorado Springs and north of the Arkansas Valley turned up the last of the Colorado bonanzas and the last big gold rush in the continental United States—saving only those to Tonopah and Goldfield in Nevada—it was primarily a cattle-grazing land of ranches and upland pastures; and when a calf belonging to one of its primeval settlers broke a leg while trying to jump across a stream, its owner, Levi Welky, named the rivulet "Cripple Creek." This name was to have resounding implications of grandeur, infamy, violence, and lasting wealth.

In 1890 a rancher known as "Cowboy Bob" Womack discovered gold in the shadow of Mount Pisgah, and before the Cripple Creek settlement could run its course and become one more Rocky Mountain ghost town it would see the meeting of the Old West and the new day of technology, the grizzled pick and burro prospector and the high-pressure stock promotor, the Ames shovel and the long-lines telephone.

Here in dusty confusion the last of the Colorado bonanzas erupted in sudden wealth of staggering proportions. The eruption brought labor warfare, social splendor, and the most publicity ever accorded a mining camp. Cripple Creek boasted everything that had been part of the great bonanzas before it at Virginia City, the Mother Lode, the Coeur d'Alene, Alder Gulch, and Tombstone. It also had stock tickers, the Western Federation of Miners, Spencer Penrose, Texas Guinan, silk hats, and evening dress.

Although Morris Cafky, a fellow toiler in the vineyard of railroad folklore, waxes lyrical over the "vision and ability" of David Moffat in laying out and building the Florence & Cripple Creek, it would seem in the light of hindsight that the construction of a railroad to Cripple Creek was fairly obviously indicated in 1893. It may be doubted that the F&CC was either inspired in its location or prudently built.

Two other carriers, both standard gauge, followed hard on the heels of the narrow gauge and almost immediately began subverting its traffic, and both outlived it. The reason for their supremacy lay almost entirely in their location. Both the Midland Terminal and the Colorado Springs & Cripple Creek District Railway converged on Mount Pisgah directly from The Springs, where they connected not only with the D&RG but also with the Colorado & Southern, the Rock Island, and the Santa Fe. Both were closer to Denver by many miles than via the F&CC's circuitous connecting with the Denver & Rio Grande through Florence, Pueblo, and The Springs.

But while the F&CC eventually became an also-ran in the contest for Cripple Creek traffic and dividends, it had an inside track to sentiment and the human heart, for it was narrow gauge. Its three-foot dimension was an asset for immortality possessed by none of the competition.

T. H. Routh, Denver Public Library Western Collection

Cripple Creek's first Post Office was also a second-hand merchandise store.

FOLLOWING the immemorial pattern of prospecting in the Old West, Cowboy Bob Womack sold his claim for peanuts to more sophisticated operators, who took millions from it.

This was in the best tradition of those who discovered precious metals. All four pioneers of the mighty Comstock Lode died in poverty, one by his own hand. The desert rats who uncovered Tonopah, Goldfield, Rhyolite, and Bodie met the same fate as countless other first-comers. Almost alone of the pick and burro prospectors, Ed Schiefflin, the discoverer of Tombstone, took many millions from the Lucky Cuss Mine and the Tough Nut Lode, but even he died with an estate of no more than $30,000.

Womack sold out for $500, and died of the occupational disease of stumble-bums, a cirrhosed liver. Toward the end he was known as "Crazy Bob."

But Cripple Creek and its adjacent mines at Victor, Goldfield, and Elkton emerged shortly into the effulgent noontide of a full-fledged gold rush. Two real estate promotors, Horace Bennett and Julius Meyers, platted a townsite. Fresh out of Harvard there arrived, in a wing collar and hard bowler hat, young Spencer Penrose, brother of Pennsylvania's princely Senator Boise Penrose, to become Colorado's greatest sport, moneybags, and first citizen and eventual builder of the Broadmoor Hotel at The Springs.

Hotels, saloons, dance halls, bagnios, and honky tonks reared false fronts and wooden awnings in Bennett Avenue. In 1893, the year the F&CC was started, Winfield Scott Stratton, an indifferent journeyman carpenter, hit pay dirt in the Independence Mine and became Cripple's first in a bumper crop of millionaire men.

Among the incorporators of the F&CC the name David Moffat was conspicuously missing. Nevertheless, he was the moving spirit of the venture, which was capitalized at $1,000,000. Narrow-gauge construction was specified and logical in the light of its Florence connection, since the D&RG operated over three rails as far as Leadville and as late as the twenties. No trans-shipment was necessary. With the completion of the line a good deal of Rio Grande rolling stock was diverted to Cripple Creek traffic.

The basic expense of grading was minimized by the fact that the survey followed wagon tracks of the old Florence & Cripple Creek Free Road. A roundhouse and a depot sprang up at Florence. The little line got under way with a whoop and a holler and made steady progress until it encountered an impediment of geology called Phantom Canyon. Two tunnels were blasted through inconvenient rock formations, and bridges were built where the wagon

road had forded Eight Mile Creek.

By May of 1894 the rails reached milepost 25.3 at Willow, only six air miles from Cripple Creek. A stage route connected with the railroad, as had been the custom on many other Colorado railroads as they neared their objectives; and a newspaper account in *The Creede Candle* announced, "The railroad is in first class shape to Wilbur Station." In the light of subsequent developments, this could be taken as optimistic, but for the moment it seemed a fair enough assay.

Most spectacular portion of the line was the last six miles between the District and Wilbur, where a four percent grade carried the tracks to Rock Point and Alta Vista over a lariat-shaped series of loops which at one point reversed the direction of the right-of-way. From the topmost elevation at the ridge, the two lower levels of the loop could be seen in the canyon far beneath. A passing siding was built on the intermediate level and helper engines were assigned to all up-freight.

The first train to enter Cripple Creek was the F&CC's narrow-gauge passenger run on July 1, 1894. It consisted of borrowed Denver & Rio Grande coaches behind an also-borrowed D&RG locomotive, the diamond-stacked *Chama,* which Baldwin had built in 1880. The customary celebration that ensued ended ingloriously the next day when the down train overturned on a low trestle near Anaconda and killed a passenger.

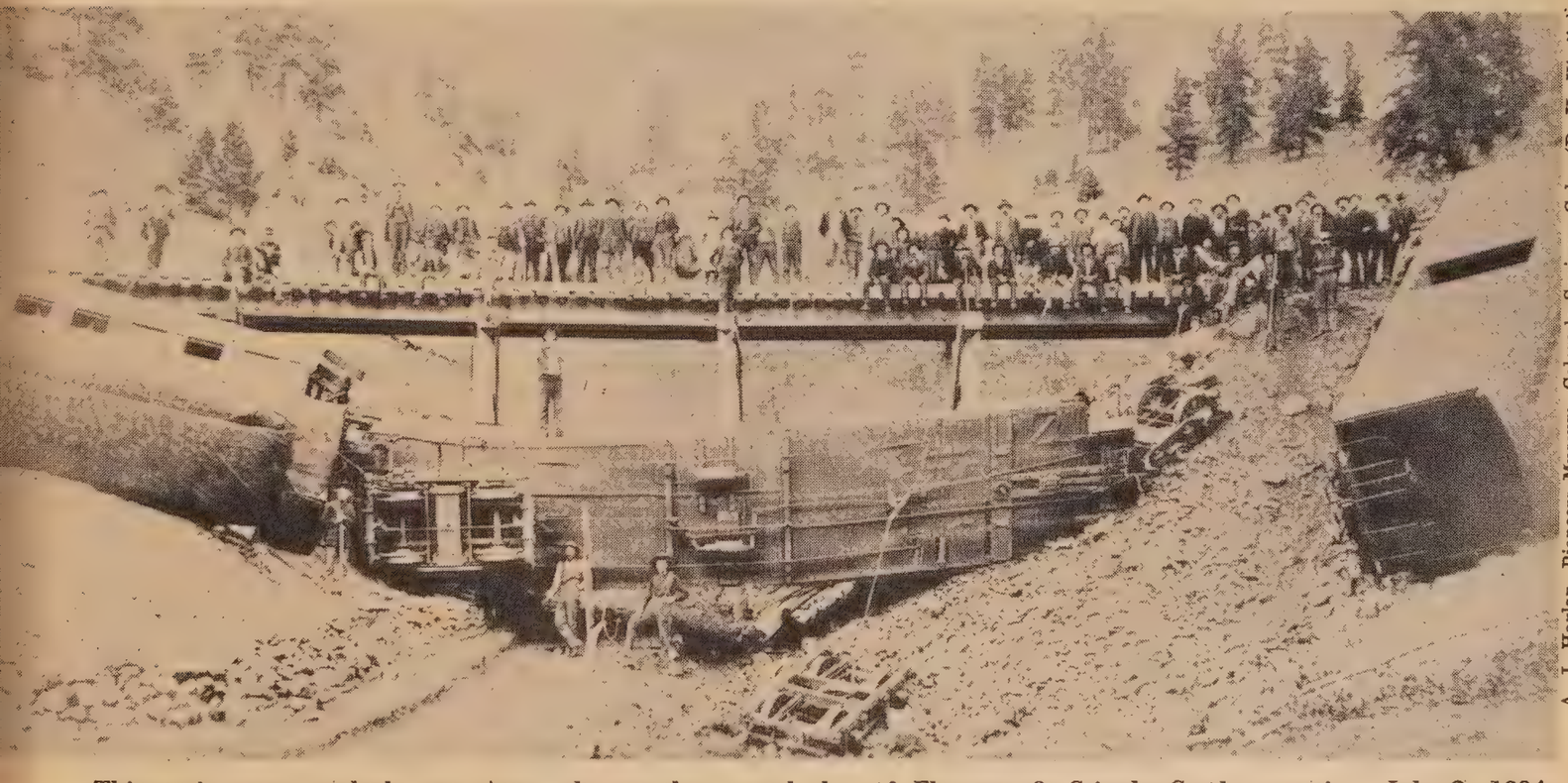
On the Fourth of July, Cripple got another railroad, the standard-gauge Midland Terminal, which built into town from a connection with the Colorado Midland's main line at Divide.

THE PRESENCE of two railroads —to be joined in a few years by a third, the Colorado Springs & Cripple Creek District standard-gauge—produced varying schools of thought in Colorado financial circles. Cassandra-minded prophets forecast universal ruin through too much competition, while civic boosters saw ever greater prosperity. As it happened, the optimists were right. From the start, both lines had traffic and to spare, and some years later the *Denver Republican* was authority for the statement that in 1893 the F&CC paid for its construction every three weeks. Possibly this was an exaggeration, but there can be no doubt that from the beginning the little slim-gauge road was in clover.

The F&CC, as the first railroad to attain Cripple Creek, albeit by a thin margin, deserved and for a time got the cream of the camp's business, both in passengers and in carloadings. In 1893 the production of gold in the district's great mines—the Portland, Cresson, Independence, Elkton, and Golden Cycle—reached better than $2,000,000, and from then on it soared with every passing year until it reached its zenith in 1900 with $18,000,000. During that period the population, too, increased until there were an estimated 30,000 permanent residents in Cripple Creek and its surrounding communities.

Such a concentration of money and people in a region that less than a decade before had been little more than an upland pasture—and in an age when no other considerable overland transport was available—implied good times for the railroads. The F&CC in its modest way proved a bonanza in keeping with the mines it served.

The road operated three passenger trains each way on a daily schedule over the forty miles between Cripple and Florence. The equipment was leased from the D&RG



A. J. Harlan, Pioneers Museum, Colorado Springs, Colo. (R. H. Kindig)

This train was wrecked near Anaconda on the second day of Florence & Cripple Creek operation, July 2, 1894.

L. C. McClure, Denver Public Library

Richard H. Kindig Collection

Phantom Canyon, an impediment of geology, was at the same time a scenic marvel and an operation hazard. Tunnels were blasted through it and bridges were built. Years later, flash floods roaring down it brought about the F&CC's untimely end.

and included, in addition to the conventional coaches and combines, through Pullman buffet cars between Denver and the District. Each of the little varnish cars, *Ogden, Provo, Salida, Salt Lake* and *Cimarron,* boasted ten sections and a kitchen compartment, and ornate coal-oil lamps. It also had Baker heaters, those patent furnaces whose eccentric conduct bemused and baffled train crews for years on runs where through steam lines from the engines were impracticable.

In 1895 the narrow-gauge showed a net of $37,000, which if not comparable to the earnings of the haughty Virginia & Truckee out Nevada way, was most impressive.

In the fall of 1895, when the F&CC had been in useful and profitable operation for little more than a year, the economies practiced in the line's construction proved to be very costly. An evening cloudburst sent a flash flood roaring down Eight Mile Creek, "eclipsing the high-water mark made in the canyon since the Arkansas Valley has been inhabited by white people." Twelve miles

of track were destroyed in places where prudence would have dictated its location at a substantially higher level. Nearly $200,000 had to be spent in relocating the tracks through Phantom Canyon at a level that was considered above any possible flood line—and would be for sixteen years to come.

The next regional disaster was freighted with grief for many but not for the narrow-gauge. In the spring of 1896 the town of Cripple Creek burned up, becoming in five or six hours as flat as a collapsed opera hat. A few days later a second conflagration incinerated whatever structures, either public or private, had escaped the original holocaust.

The flames had their origin in a characteristic Western episode. A bartender and a prostitute had quarreled in the Central Dance Hall and overset a coal-oil lamp. In the course of the fire, an explosion of boilers in the furnace room of the Palace Hotel maimed a score of bystanders and firefighters. Seven hundred pounds of dynamite stored among the canned goods on the shelves of Harder's Grocery were detonated, while hundreds of barrels of whiskey blew up, adding to the doomsday thunderclaps. Other whiskey barrels which saloonkeepers were rolling toward safety were overtaken by the flames and cascaded, blazing, down the town's steeply inclined streets to spread destruction.

Across the divide in Colorado Springs, residents paused in their affairs to watch a huge dun-colored cloud of smoke above the mountain tops. All phone and telegraph wires were down, but Springs business men knew of the emergency without being told and they started relief trains up Ute Pass over the Midland with blankets, and tinned goods for the stricken city.

When it was all over, Cripple Creek set about rebuilding. As had been the case in Virginia City on the Comstock twenty years earlier, the mines were in fullest operation, the community was booming, and there was no thought of anything but getting back into production. The F&CC had only ten engines on its roster at the time but quickly borrowed twenty more from the Rio Grande to haul building material. Extras roared up Phantom Canyon day and night, and down trains of empties arrived at Florence and Canyon City with brakeshoes smoking. Thus Cripple Creek's ill wind blew prosperity toward the F&CC.

MUCH TIME and money were being lost by freighting in ores from mines in such outlying districts as Bull Hill and Altman to the loading chutes at Victor and Cripple Creek, and now the owners of the F&CC consolidated their already firm grasp on the regional traffic by building a subsidiary narrow-gauge known as the Golden Circle, with spurs and stub tracks reaching out to distant shafts and head frames.

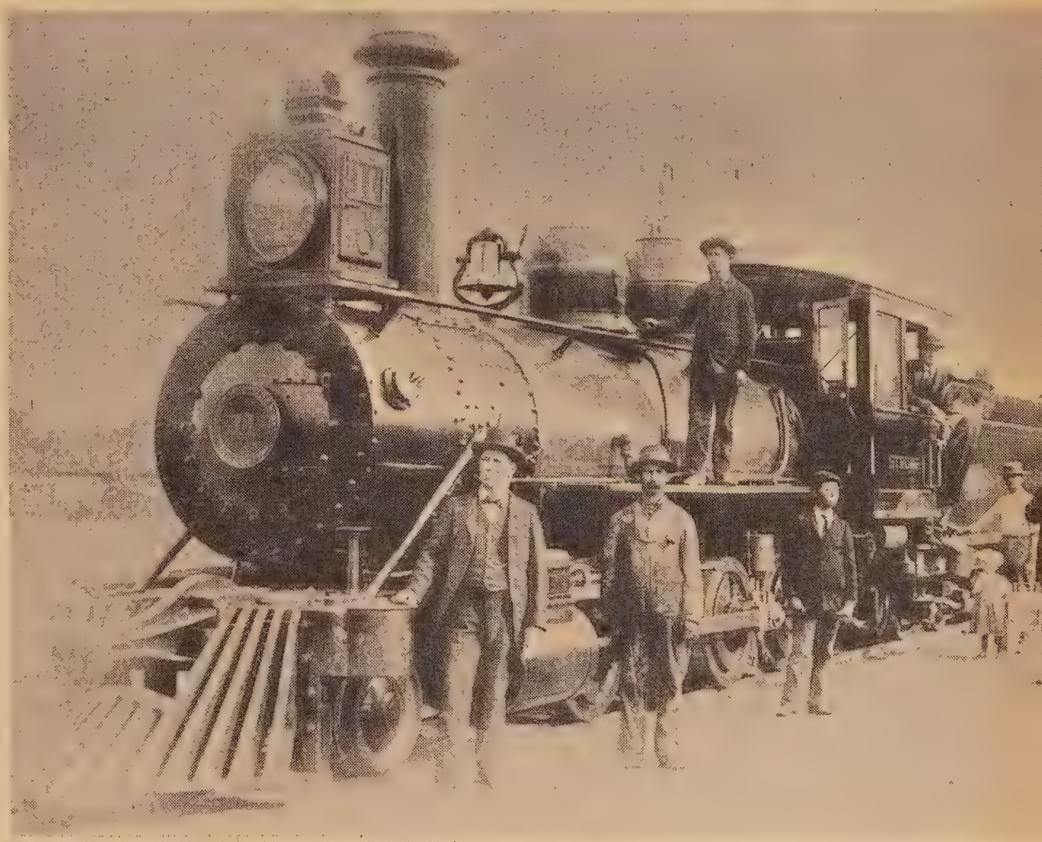
Suburban passenger traffic also was a good source of revenue, and the F&CC purchased a fast tank engine from Schenectady for the commuter trade to Independence, Altman, and Vista Grande. The narrow gauge was beginning to resemble a branch office of the Denver Mint.

In 1899 another subsidiary, the seven-mile Canyon City & Cripple Creek Railroad, was built to connect Canyon City with the F&CC main line at Oro Junta, north of Florence.

District affairs were now approaching their zenith of production, but competition between the Florence & Cripple Creek and the Midland Terminal was beginning to bring losses to both carriers. It was an age of consolidations and mergers, and the transport pattern of Cripple Creek headed for a monopoly. Capitalists from as far afield as Boston and Ontario organized a holding company which they incorporated as the Denver & Southwestern Railway. In its portfolio, by purchase, there shortly appeared the F&CC, the Midland Terminal, the Golden Circle, and the Canyon City & Cripple Creek. The age of wasteful competition between the District's carriers was, for a time at least, over.

Long sections of the F&CC were laid to heavier rail. Half a dozen new locomotives appeared. Parts of the Golden Circle were tracked to standard as well as narrow gauge for the rolling stock of both roads. The F&CC now boasted nearly 300 freight cars and sixteen of its own

F&CC No. 11 was named the *Strong* after a mine in the Cripple Creek district.



W. J. Gordon Collection (from R. H. Kindig)

H. S. Poley, courtesy of Little, Brown & Co.

Brick-and-wooden Palace Hotel was destroyed in Cripple Creek fire of 1896.

Both photos by R. H. Kindig, 3831 Perry St., Denver, Colo.

F&CC No. 9, the *Portland*, shown at South Alamosa, Colo., belongs to Rocky Mountain RR. Club. Members painted her. Ed Haley wields a brush. Assisting were I. E. August, W. J. Gordon, R. H. Kindig, D. K. Peterson, and R. W. Richardson.

passenger coaches, combines, and mail cars.

A well-defined policy governed both roads. All local freight, ore for the smelters at Florence and Canyon City, and narrow-gauge interchange from the Denver & Rio Grande was allotted to the F&CC. Freight originating in standard-gauge territory largely to the east of the Rocky Mountains came in over the Midland's standard trackage. So far as Cripple Creek was concerned, the Midland was predominantly a carrier of import, the F&CC an export line.

The arrangement effected many operational economies that benefited both lines.

In its early days the F&CC named most of its locomotives after regional Colorado landmarks or individuals connected with the management. No. 1 was the *Victor,* followed by the *Elkton, Cripple Creek, Anaconda, Florence, Sumner, W. S. Stratton, Goldfield, Alta Vista, Independence, Strong,* and *Gold Coin,* all 2-8-0 types. The road's 4-6-0's were the *Portland, Isabella, Vindicator, Granite, Last Dollar,* and *Vista Grande.*

Several years after the Allied Lines acquired the F&CC the pleasant custom of naming the engines was suspended, and only utilitarian numbers served to identify the little iron ponies that climbed the grade that led up from the Valley of the Arkansas, a situation that prevailed not only on the narrow-gauge lines in Colorado but on railroads in general. By discarding their oldtime romantic appeal the roads have lost much of their hold on the public imagination.

THE LAST of the bonanza narrow-gauges apparently had no strictly luxury equipment, save for the connecting D&RG's sleeper-buffets on the overnight run out of Denver. There seem to have been no business cars, either. Not even so industrious a chronicler as Morris Cafky, the road's official historian, could find on the F&CC a trace of the narrow-gauge private varnish that occasionally rolled over the

No. 23 of the Florence & Cripple Creek line, shown at Cripple Creek in 1907. Hugh Boatell Collection

other Colorado slim-gauges to distant mining camps and lent romantic flavor to the personages aboard them. The F&CC was too short for this ultimate panache of administrative splendor.

The narrow-gauge engines ran down the years. Mining fell off, although not calamitously in the Cripple Creek District, and a menace hitherto undreamed of began appearing on the highways of the changing West. The first automobiles seen around The Springs were naturally rich men's toys—Brush runabouts, Olds touring cars, Pope Toledos, White steamers, and primeval Cadillacs. Even "Spec" Penrose purchased a steel gray Rolls Royce Phantom I which can be seen in the Broadmoor carriage house to this very day. Roads were abominable, motors and their accessories unpredictable. It didn't seem likely that any threat was posed to steam railroading.

Nevertheless, in the first decade of this century passenger traffic over the F&CC seemed to melt away. The end came in 1912. With only nineteen years of main-line operation behind it, the little narrow-gauge was the shortest-lived of all its contemporaries in Colorado.

Once again a flash flood descended Phantom Canyon, taking with it eighteen bridges and destroying nine miles of right-of-way. The management was reluctant to rebuild, but operation of the mine trackage in and around Cripple Creek continued with the four locomotives, 28 boxcars, and 67 ore cars that were stranded at the upper end of the line.

The usual hassle with the Interstate Commerce Commission ensued when Canyon City applied for an injunction to force the operators to rebuild. In the end, the trackage, rolling stock, and other tangibles of the once-prosperous narrow-gauge at the District end of the line went into the assets of its leased subsidiary, the Gold Circle Railroad.

The right-of-way through Phantom Canyon became briefly an automobile highway, widely admired for its scenic splendor, but the forces of Nature were as hostile to internal combustion as they had been to steam expansion engines. Flash floods took out the pavement as regularly as they had the ballast and rails of the Florence & Cripple Creek.

Today, while the highway is navigable to four-wheel powered cars, the traffic isn't brisk. It can only be concluded that God never intended Phantom Canyon as a thoroughfare for human journeying. ●

The Atlantic Story

Nothing on North American Rails Has Ever Been Able to Match the Top Speed Performance of 4-4-2-s, *Their Golden Year Being* 1905, *and Their Power and Glory Will Long Be Remembered*

by H. L. KELSO

LEGEND has it that the world's fastest steam engine was the Pennsy's 7002, a graceful Atlantic type credited with a top speed of 127.1 miles per hour in a three-mile sprint near Elida, Ohio, on a June night in 1905. Freeman Hubbard told the story of this run in the August '57 *Railroad Magazine.*

As Hubbard stated, the 7002 was scrapped at Grand Rapids, Mich., in 1934. But fifteen years later, at the Chicago Railroad Fair, a "miracle" occurred. The old speedster reappeared with a fresh coat of paint and a plaque describing her unbeaten record. This created quite a stir.

A checkup revealed that she was merely a restoration. The so-called 7002, Class E-2, was actually an E-7 engine, No. 8063, renumbered for publicity purposes. The Pennsy had sprung a pleasant hoax on the general public—but not on the wise rail-fans. Master showman P. T. Barnum would have enjoyed it.

In those days the Pennsy was proud of their steam power. We don't blame them for "resurrecting" a beloved engine. In fact, we're glad they did. We would like to see a lot more steam power revived in one form or another.

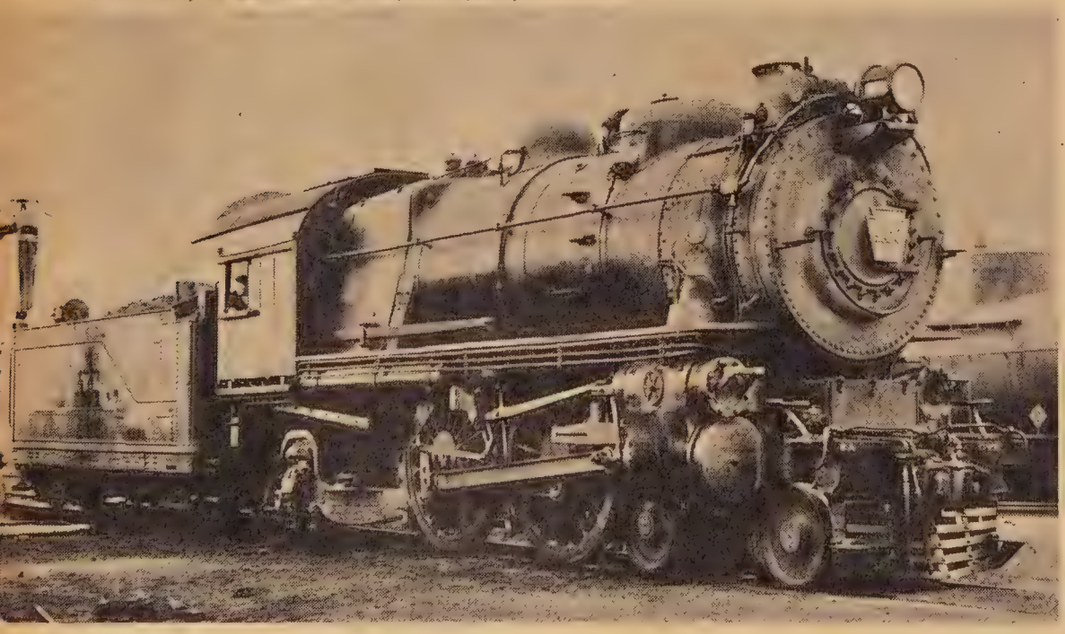
You can inspect the second 7002 in the museum of Pennsy steamers at Northumberland, Pa. Another Atlantic type there is the same 460 that wheeled the *Lindbergh Special* from New York to Washington, D. C., on June 11, 1927. That train carried news films showing the aviator's triumphant return to America after his epoch-making solo flight across the ocean. No. 460 covered the 226-mile run in 187 minutes. Average speed, 72 miles per hour. On one stretch in New Jersey she ate up 47 miles at 85 per. Her best performance was 115 mph.

Incidentally, the 460, outshopped in 1914, was the last 4-4-2 the Pennsy ever built. But more about Pennsy Atlantics later.

WHAT MEMORIES the term *Atlantic type* conjure up to us of the older generation—the throttle artists who, decades ago, piloted those mighty ten-wheeled power machines across the land, and even the humble ashcats, like myself, who fired them into everlasting glory and who, by opening the firebox door on a night run to shovel in coal, momentarily lit up the sky!

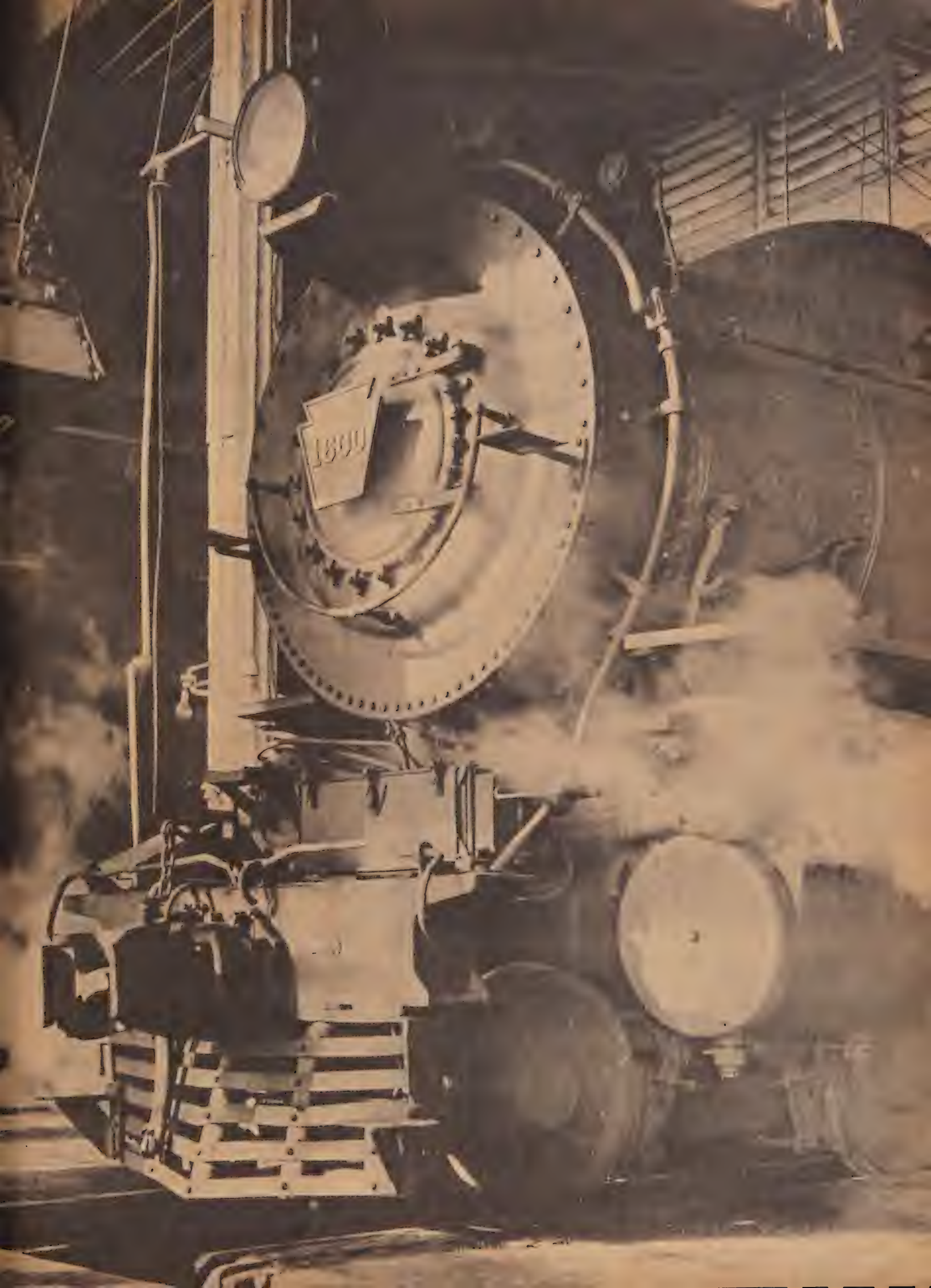
Could anyone forget such magic? Maybe you never handled a 4-4-2 in her hour of greatness. Maybe you only watched her from trackside with longing eyes. Even so, you will always remember the flash of steel driving rods, the reverberating thunder of exhaust, the lonesome whistle that filled you with a sort of ecstasy, and the squirrel-plume of acrid smoke on a night run billowing upward to blend with Orion and Arcturus and the Milky Way.

Don Wood, 29 Mt. Haven Drive, Livingston, N.J.



Pennsy Atlantic type No. 460, which pulled the *Lindbergh Special* in 1927 at speeds up to 115 miles per hour, may be seen today at Northumberland, Penna.

Dozing in autumn sunshine, this E-6 was caught by Don Wood's camera at P-RSL roundhouse, Camden, in 1954.



These sights and sounds and smells are part of a deathless past. For example, the 4-4-2 is linked indelibly with the *Twentieth Century Limited.* Today the *Century* is dieselized, properly tamed and smug; but her history-making maiden trip in June, 1902, featured a majestic and high-stepping Atlantic-type steamer.

Twenty hours between New York and Chicago! That was rolling right along in the bygone days. Officials of other roads said it was too fast, but New York Central men knew better. They knew what 4-4-2's could do. And, as the record shows, a Class 2900 Atlantic roared out of our biggest city that balmy June day with the first edition of one of the world's most famous trains.

Such engines made the 20-hour schedule a pushover. Atlantics also did themselves proud on the Central's other crack trains such as the *Empire State Express.* Why, even freight hoggers, especially on the Missouri Pacific, recall the time when Class 5500 4-4-2's were assigned to perishable hotshots, and how they raced those reefers across the sun-baked Kansas prairie! Some of them will tell you that the passing telegraph poles looked like a picket fence. Ah, those were the days!

This type had a four-wheel leading truck, four coupled drivers, and a pair of trailing wheels under the firebox. The first batch of them were built by Baldwin in 1895 for the Atlantic Coast Line, and that is where the name *Atlantic* came from. An old edition of the *Locomotive Cyclopedia* purports to trace the name to certain engines used on the line between Camden and Atlantic City, but I challenge this theory because the Atlantic City Railroad had no 4-4-2's until 1896.

Some historians say the Atlantic type stemmed from the American Standard 4-4-0. The evolution, they claim, began with the need of trailer wheels to support a larger boiler and firebox. But what about Baldwin's 5000th locomotive, a 2-2-2 built in 1880? Her trailer wheels were applied not to buttress the firebox but to balance the engine's general weight distribution.

Actually, the 2-2-2 evolved into the speedy 2-4-2, or Columbia type, which Baldwin built for the Philadelphia & Reading in 1892. The Baldwin people exhibited a 2-4-2 in Chicago at the Columbia Exposition of 1893, playing her up as the highest development of fast passenger power at that time. She was a soft-coal-burner with 84-inch drivers and a long narrow firebox. The P&R 2-4-2's boasted wide Wootten fireboxes designed to burn anthracite.

The same world's fair displayed a British-built 2-4-2, the *Queen Empress,* a four-cylinder compound that was calculated to "open the eyes" of American builders. After the Exposition, she ran 1,500 miles on American rails before being shipped back home. A sister engine, given rigid tests in England, had been driven 3,600 miles at high speed.

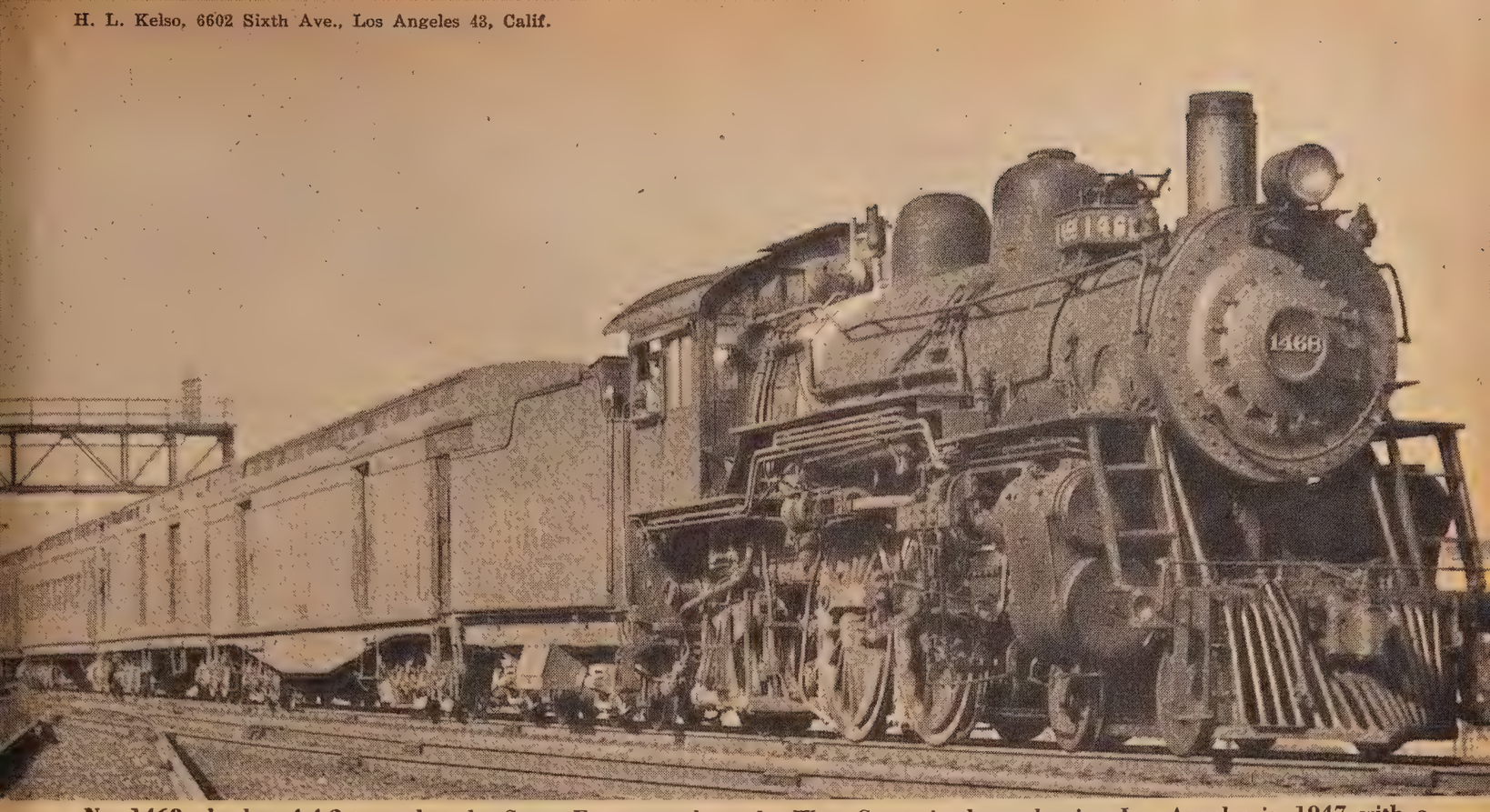
THE MOST CELEBRATED Columbia type to operate in the United States was No. 590, which Baldwin turned out for the Chicago, Burlington & Quincy in 1895, the year of the first 4-4-2's. She was built expressly to pull mail trains. On the memorable starlight night of February 17, 1899, with cool-nerved Frank Bullard at the throttle, she ate up the 205 miles from Chicago to Burlington, Iowa, in 197 minutes—an astonishing record for 63 years ago. From Chicago to Council Bluffs she averaged 57.27 miles an hour.

I mention the 2-4-2's because they

Don Wood

Restoration of speed king credited with 127.1 mph. at Pennsy museum, Northumberland, is popular photographic subject.

H. L. Kelso, 6602 Sixth Ave., Los Angeles 43, Calif.



No. 1468, the last 4-4-2 type that the Santa Fe operated on the West Coast, is shown leaving Los Angeles in 1947 with a "streak of varnish" for San Bernardino. The year after this shot was taken, the tired old locomotive made her farewell run.

immediately preceded the 4-4-2's the evolution being brought about by the fact that passenger engines with a two-wheel leading truck were not considered safe to run very fast.

The Burlington's 590 was soon converted to a 4-4-2 but, ironically, jumped the track one unlucky day in 1905 while burnishing the rails at high speed and was wrecked so badly that she had to be scrapped. For our part, in checking such derailments, we find no reason to regard the two-wheel leading truck as a hazard in fast runs.

Although the first true Atlantics did not show up till 1895, the Hinkley Works experimented with a 4-4-2 wheel arrangement as early as 1888. George S. Strong designed that baby, which bore the name *A. G. Darwin*. The *Darwin* performed fairly well on several roads. Later, four other such engines appeared, one of them on the Santa Fe. But because each had two cylindrical fireboxes of the "pant-leg" type, they were comparatively short-lived. None could be classed as real Atlantic types.

There were seven engines in the first batch of Atlantics that the Atlantic Coast Line ordered from Baldwin. These were designed to replace 2-4-2's then in service. Oddly enough, the enginemen didn't like them, and the road never ordered any more. Early in the present century the Pacific type succeeded them in favor on the ACL.

In the same year that the Baldwin Locomotive Works at Philadelphia outshopped the 4-4-2's for the ACL they also built seven engines of the same type for the Missouri-Kansas-Texas, those being the only Atlantics the Katy ever bought. Thus Baldwin, which created the first Atlantics, had a batting average of zero on repeat orders for them.

But for some reason or other, the Philadelphia & Reading kept the new type alive by receipting for two Camelback, or double-cab, 4-4-2's to use on the shore run in 1896. Unlike the ACL and the Katy, the Reading continued to buy or build 4-4-2's until about the time World War 1 broke out in Europe. Indeed, Atlantics were the foremost engines in the Reading's long and distinguished history. Tall tales have been related about their lickety-split runs on the racetrack between Camden and Atlantic City and the records they set.

No Reading locomotive attained greater fame than the 1027, one of the Baldwin Atlantics that hit the rails in 1896. She was a Camelback, a breed sometimes referred to as Mother Hubbard. *Railroad Magazine* carried her picture in Oct., '57.

You wouldn't have called No. 1027 powerful, her tractive effort being a mere 14,465 pounds, but she could turn her 84½-inch driving wheels more rapidly than any engineer wanted to turn them. It is said that at no time did she ever run with her throttle wide open. However, the records show that several Atlantics on other roads were regarded as faster engines.

The year 1915 saw four new 4-4-2's roll out of the Reading shops for use on important passenger runs. Yes, the Reading had important passenger runs in those days. But the four new engines didn't do at all well. Their four- (rather than three-) point suspension gave them rough-riding qualities. The following year they were converted to Atlantics and became the only standard 4-4-2's ever used on that road. All four wound up their useful serv-

Three pix made by father of Karl E. Schlachter, 112 Laurel Lane, Forest Brook Glen, Wilmington, Del.

High-stepping 4-4-2 Camelbacks on Eastern roads: (top) the Lehigh Valley, (middle) the Reading, and (below) the Erie.

ice in the shore run in the early fifties.

This stretch of track is now known as the Pennsylvania-Reading Seashore Line, owned and operated jointly by the Pennsy and Reading. Prior to the birth of the P-RSL the two systems vied with one another for traffic between Camden and Atlantic City, their lines running more or less parallel between the two New Jersey cities, and 4-4-2 Camelbacks proudly upheld the Reading's gonfalon in the long series of races.

IT WAS the Pennsy, however, that wrote the most brilliant pages for the Atlantics' history book. Beginning in 1899, those pages unfold a fabulous tale. They trace the rise of the 4-4-2 from the Pennsy's first three Camelback Atlantics—which, incidentally, were built to outdo the Reading speedsters on the shore run—to the galloping Class E-6s iron horses built in 1914.

The three Camelbacks were the only double-cabbers on the Keystone Road's alltime roster. Like nearly all Pennsy-designed locomotives, they performed up to expectations, but the engineers and firemen didn't like to be cubicled in separate cabs. Maybe they got lonesome. Anyhow, the brass collars in Broad Street Station transferred the Camelbacks to their stepchild, The Long Island Rail Road, and there the exiles finally ran their last miles in 1912.

Meanwhile, in 1900 the Pennsy put their first standard-cab Atlantics into service, and with the march of years this type waxed bigger and more efficient. Back in steam-power days, you know, the Broad Street Station boys distinguished themselves as leaders of locomotive development.

In 1904 the Pennsylvania Railroad imported a de Glehn compound engine from France and boldly exhibited her at the St. Louis Fair.

After the fair closed, however, they learned from exhaustive road tests that the de Glehn lacked the power needed for handling heavy passenger trains. So they gave her a lesser role and retired her in 1912, about the time the LIRR scrapped its Camelbacks.

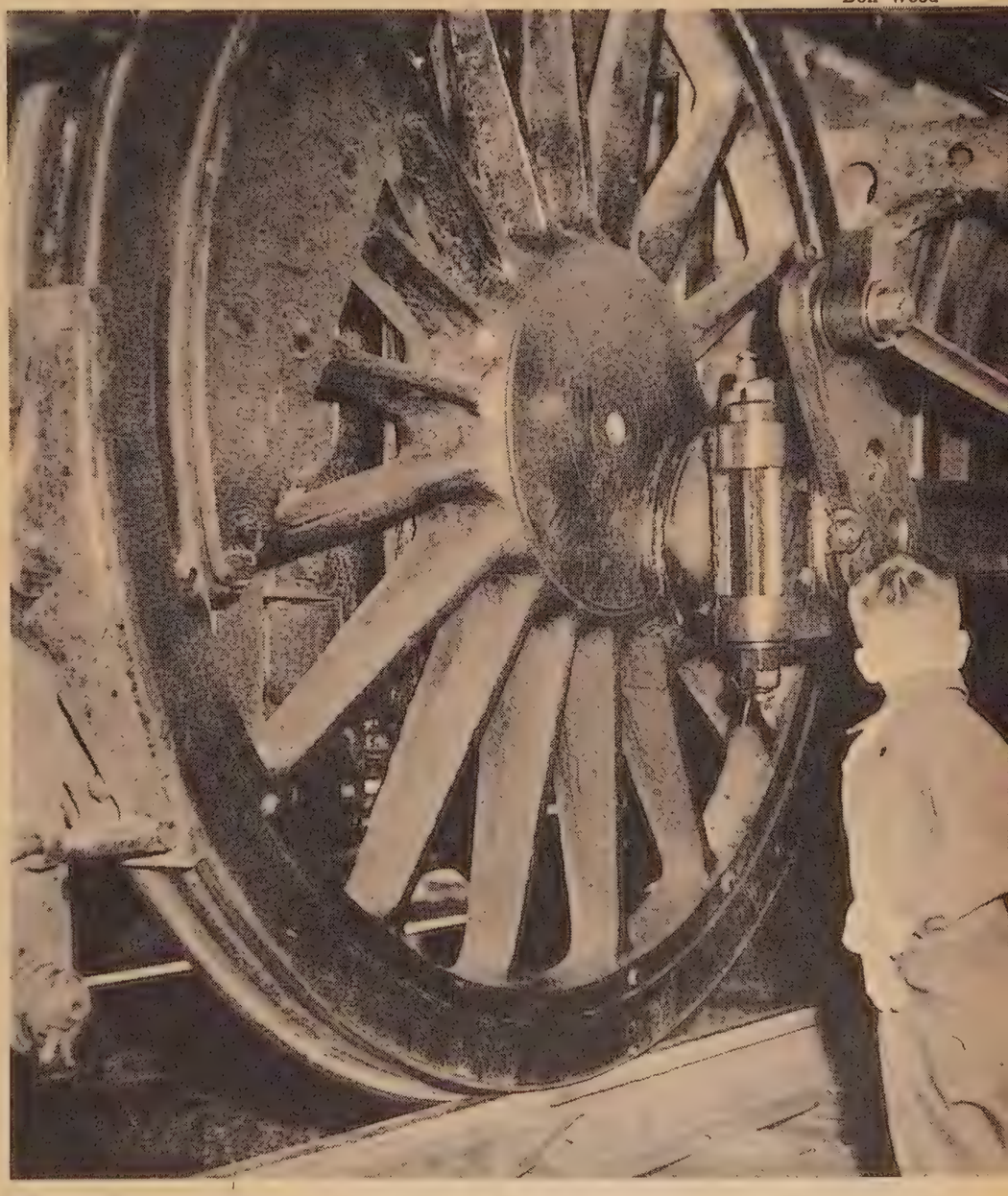
Two years later the Pennsy had made so much progress with Atlantics that they began building eighty of them, Class E-6s, in their own great shops at Juniata, Pa. Most locomotive authorities will tell you that those eighty were the finest 4-4-2's ever to turn a wheel. Others argue the point, citing the records of the streamlined Atlantics that the Milwaukee Road brought out in 1935. More about the Milwaukee anon.

As fast as the E-6s's emerged from Juniata they were assigned to name trains, No. 425 to the *Broadway Limited* westbound and the *Manhattan Limited* eastbound, and No. 779 to the *Congressional*, both ways.

The "Big E," as the Keystoners called them, had what it took in speed, power, and stamina. One particular burst of speed comes to mind. In 1915, with capable Martin Lee at the throttle, No. 779 covered the 36 miles from Washington, D. C., to Loudon Park, Md., in 25 minutes. That was even swifter than the much-publicized Lindbergh Special.

Also in 1915 another Atlantic, the 261, did something very unusual. She wheeled a fast passenger train 752 miles from Fort Wayne, Ind., to Manhattan Transfer, N. J., and returned westbound with the *Manhattan Limited* that same day, keeping "on the advertised" every minute of the grueling run. Still another, No.

Don Wood



Mighty driving wheel of a Pennsylvania Railroad Atlantic type, 80 inches in diameter, looms gigantic before the wondering eyes of a seven-year-old boy.

3002, famed for speed, power, and ability to take curves without slowing down, was chosen to handle a freight train consisting of cars equipped with specially-designed high-speed trucks. On a test run the big-boilered E-6s made up to 85 miles per hour.

TURNING now to Great Britain, we learn that the 4-4-2 made her debut there in 1898 when H. A. Ovatt, the widely-known English locomotive designer, rolled out No. 990 for his Great Western Railway. This engine was the *Henry Oakley* —no kin to Annie Oakley, crack shot of the old American West. It boasted an exceptionally large boiler and 79½-inch drivers, and did so well on test runs that various British roads, one after another, adopted the type.

In 1903 heavier Ovatt Atlantics appeared with boilers so huge that height clearance required the use of a short stubby stack. This feature robbed the machines of anything like a graceful profile and gave the impression of rugged power rather than celerity. In some respects they resembled the Pennsy's E-6s.

Renowned, indeed, were the 4-4-2's of England's Lancashire & Yorkshire line. These engines designed by John Aspinwall and built in the road's own shops, had 87-inch drivers—the largest wheels ever applied to a coupled locomotive anywhere on the globe—but they made no official speed records that we know of.

England's Great Western joined the Atlantic parade in 1902 by rebuilding a Ten-wheeler into a 4-4-2. Three years later, thirteen more Atlantics hit the GW rails and were pitted against de Glehn compounds that the road had imported from France a short time before. The Great Western, however, was partial to Ten-wheelers and eventually converted all their Atlantics into 4-6-0's.

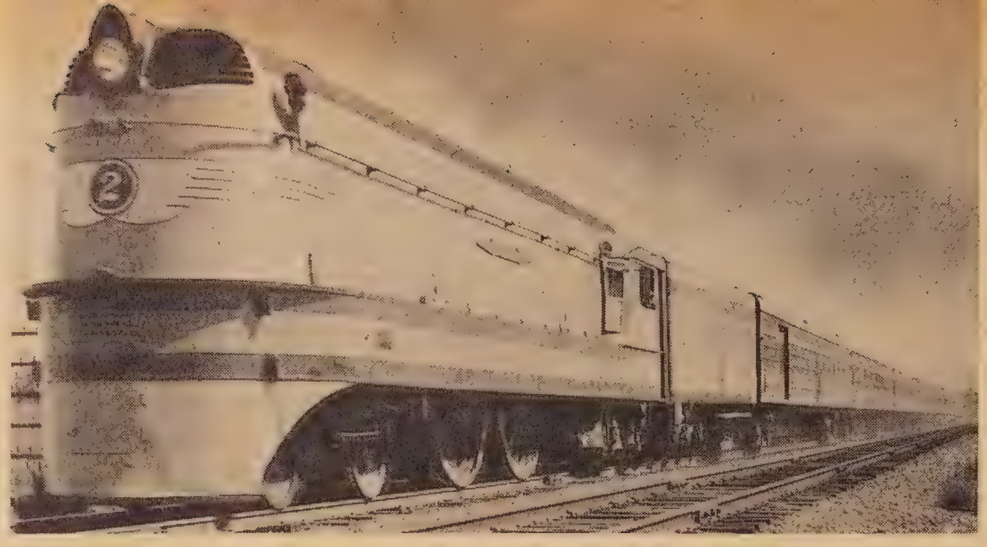
This odd conversion brings to mind a pair of curiously-built Atlantics that were made in America for Egypt's Sudan Government Railways. These two were so fashioned that they could be changed, back and forth as desired, from Atlantics with 78-inch drivers to Ten-wheelers with either 60- or 69-inch drivers. Perhaps some reader can supply data on them.

The Atlantic type took hold, briefly or for many years, in many lands. But Canada, which made some interesting contributions to locomotive history, did little or nothing unusual in the development of the 4-4-2.

However, the Canadian Pacific went the Atlantics one better by coming out with their famed 4-4-4, or Jubilee-type, engines, one of which was pictured in *Railroad Magazine* (Feb. '57).

The Jubilees are said to have been capable of doing much better than even the 112.5 mph credited to them in official tests. Edward J. Wansbrough, a CPR employe, claims that Jubilee-type No. 3002 was actually timed at a mile in 29.5 seconds (128 mph) in the flatlands between Chatham and London, Ontario. If this amazing claim could be verified it would knock into a cocked hat all presently-known records of steam-locomotive speed!

RETURNING to the United States, we come to a really bright page in 4-4-2 history. Early in 1896 the Milwaukee Road accepted delivery of its first two Atlantics. Both were Vauclain four-cylinder compounds with 78-inch drivers. Baldwin characterized them as "productive of the greatest efficiency with the utmost simplicity of



Alco built world's largest 4-4-2's for Milwaukee Road *Hiawathas* in 1935-1937. No. 2 was making 100 mph. in 1939 when Richard H. Kindig snapped this shot.

Collection of "Carload Andy" Ospring, 1132 N. Ontario St., Burbank, Calif.

In 1905 the Vandalia Line (now PRR) won fame by beating the Big Four in a race for a mail contract, Indianapolis to St. Louis, 249 miles in 226 minutes. The second half of the run really made history. "Dutch Andy" Ospring, a great throttle artist on No. 26, with Otto Wormley firing, ate up 21 miles east of Effingham, Ill., in exactly thirteen minutes, averaging more than 92 miles per hour.

parts" and on July 11, 1896, *The Milwaukee Sentinel* had this to say about one of them:

> **Engine No. 839 made a run from Chicago to Milwaukee yesterday which eclipses any record that has ever been made in the Northwest, and it may be found to break all records when the details have been computed.**
>
> **The train, No. 23, consisted of four baggage cars, four coaches, four drawing-room cars, and two heavy sleepers, making an estimated weight of 500 tons. A considerable part of the run was made at speeds up to 80 miles an hour, a new record between the two cities.**

Back in 1896, the year William McKinley beat William J. Bryan for the Presidency, 80 mph was really fast traveling. Needless to say, this sterling performance resulted in the Milwaukee Road acquiring more Atlantics, and for years the system favored this type.

Not until 1935, however, did the Milwaukee make the magnificent gesture of putting into service two of the world's largest 4-4-2's on its flossy *Hiawatha* run between Chicago and Minneapolis.

The new engines, with 84-inch drivers and a mighty boiler pressure of 300 pounds to the square inch, created a sensation. Besides being fast and powerful, they were the first American-built pre-designed streamlined engines. Although they were not the most attractively or scientifically streamlined locomotives, their orange, gray, and maroon war-paint made a striking appearance.

Each was designed to power six-car *Hiawathas* at an average speed of at least 65 miles per hour. Actually, they could haul many more cars at 80 mph. Often they were coaxed up to 90 over long stretches and on rare occasions are said to have done 120! I might add that they were easy-riding and could start a whale of a train.

The Milwaukee acquired its third one of them in 1936 and a fourth in '37. Alco built them all. These four differed from the general run of Atlantics in that their main-rods were connected to the first set of drivers. This arrangement was not a Milwaukee *first*. Other Atlantics, notably those on the Santa Fe, were similarly built.

Alas, the Milwaukee's high-wheeled "A's" run no more! Like the Hiawatha of Indian lore, they have become a legend. Incidentally, those engines are the best answer I know of to a criticism made by the late Arthur Curran, locomotive historian, in the old *Railroad Man's Magazine* many years ago:

"Why was the Atlantic not liked on most roads? Well, because it was slippery, rode hard, and lacked power for heavy jobs."

None of those points applied to the Milwaukee streamliners. Mr. Curran had a keen analytical mind but did not anticipate the super-4-4-2 *Hiawathas*. Personally, I disagree with his fault-finding even as applied to Atlantics of long ago.

I have fired long-legged 4-4-2's on the Omaha Road, "D's" on the Chicago & North Western, and the tall-wheeled 600's on the Wabash, and I can state, without qualifications, that when those Atlantics were handled properly and not overloaded they did very well in getting a train under way. They were not hard-riding nor did they need excessive amounts of fuel. All steamed freely. My experience with them is among the few pleasant memories I have of my work as a locomotive fireman.

NO ATLANTIC story would be complete without a mention of the Santa Fe. Between 1903 and 1910

(*Continued on page 63*)

Shot of Vermont Valley (now Boston & Maine) 4-4-2, made by the late Karl E. Schlachter, Sr., is now in his son's collection.

INFORMATION

Steam power still dominates the Norfolk & Western. This view, taken under a Roanoke coaling tower, shows workers returning to the roundhouse at quitting time.

Philip A. Weibler, 604 E. Armory, Champaign, Ill.

BOOTH

ASK BARBARA: Railroad questions are answered here every issue by our research expert—as many as space permits. Top priority is given to subjects that seem to be of wide general interest. Address Miss Barbara Kreimer, *Railroad Magazine*, 205 E. 42nd Street, New York 17, N. Y. No replies will be sent by mail.

1 *What is the present status of Norfolk & Western steam and diesel power?*

Good question! As we go to press, N&W has in service 335 steam engines and 198 diesels. This includes 30 diesel units leased from the Pennsylvania last January but not the 30 diesel units ordered by N&W for delivery before this summer. Dieselization of freight service on the system's Clinch Valley District will probably be completed before you read these words.

"At present," writes H. C. Wyatt, vice president and general manager, "about one-third of our freight gross ton-miles are being handled with diesel power and two thirds with steam; 31.3 percent of our passenger-train mileage is handled by diesel locomotives and 68.7 percent by steam power.

"At this time we do not envision a date for complete dieselization of the system, but at the present rate of retirement of steam and acquisition of diesels, it will take several years. We do not contemplate preserving any steam engines as museum pieces."

Mr. Wyatt reminds us that in 1955 the N&W donated two Class G engines, Nos. 6 and 7, to Roanoke, Va., and Bluefield, W.Va., respectively, to be located permanently in city parks.

2 *How many railroad freight stations are there in the United States and Canada?*

Latest available figures show 54,869 in the United States, 8,788 in Canada.

3 *Is it true that some railroads wash their rails? If so, why?*

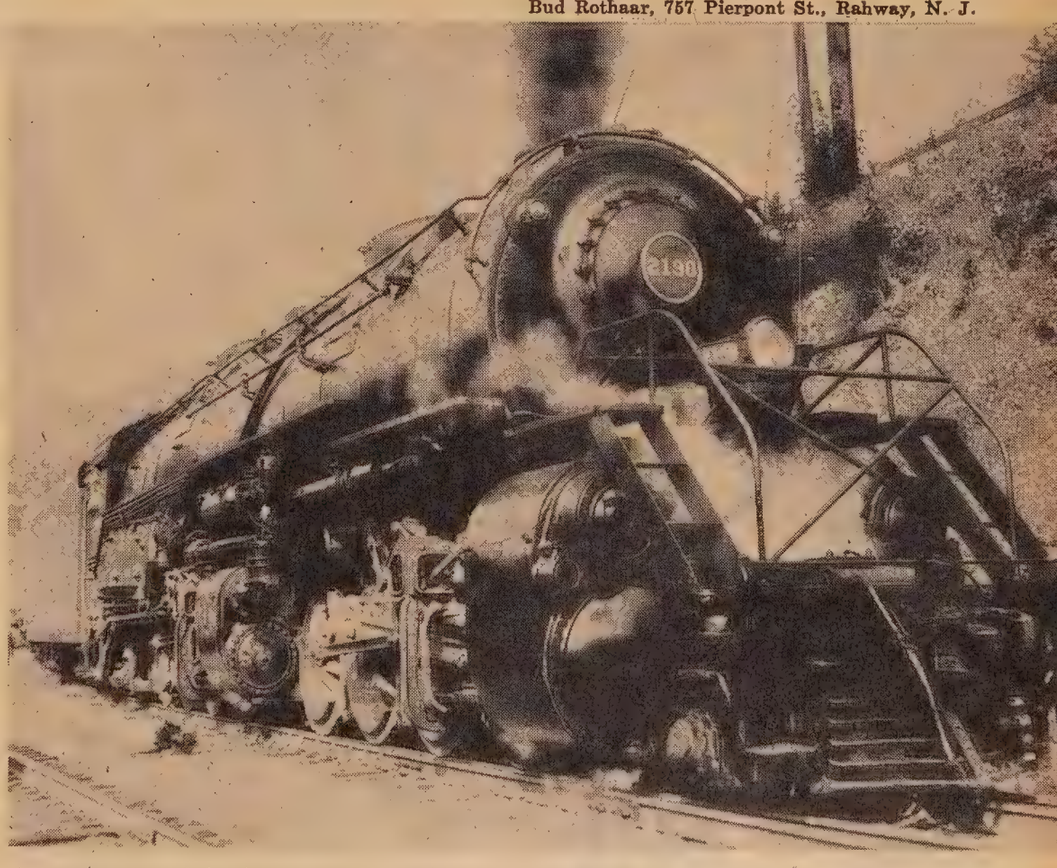
No such practice that we know of is now in effect. The problem is to remove the thin oil film from rails that causes locomotive wheels to slip on grades, a problem accentuated by the use of diesel-electrics. Abrasion or polishing methods were impractical; flame cleaning was too slow and costly.

The Reading has been testing a combination of hot water, steam, and detergents. As freight diesel units are not normally equipped with steam heating boilers, they had to use a special mobile vehicle which was expensive and inconvenient. Even then, the rail-washing was only partly effective. In another series of tests the Reading tried a new chemical to wash rails on grades. This proved more successful. No details are available yet as to its composition or the method by which it was applied.

4 *How are cabooses coupled onto trains? I mean the caboose which has a cupola at one end. Is it coupled with the "doghouse" forward or at the rear?*

We asked Bill Knapke, retired Southern Pacific conductor. He says: "Ordinarily a caboose is not turned. Whichever end the cupola is on, that's the way it stays. However, sometimes, on work trains or locals that go around

Bud Rothaar, 757 Pierpont St., Rahway, N. J.



A mountain of high-precision machinery, No. 2190, a 2-8-8-2 type, Class Y6b, is one of the last steam locomotives to be built in the Norfolk & Western shops.

Missouri Pacific Lines

Circus beasts entering a Missouri Pacific baggage car en route from San Antonio, Texas, to Mexico City via Laredo. "The Greatest Show on Earth" is partly motorized but its large animals and about 200 Ringling-B&B employes always travel by rail.

a wye, the caboose will be turned.

"Much variety is shown in the placement of the cupola—anywhere from the extreme end to the exact middle. I could never see any advantage in one location over another."

5 *Does Ringling Bros.-Barnum & Bailey Circus move entirely by highway?*

No. Circuses have been riding the rails more than 100 years and probably will never quit the rails altogether. But "The Greatest Show on Earth" no longer uses its own railroad cars; those are up for sale. Instead, it ships its 18 elephants, 40 horses and other large animals in three railroad-company baggage cars, the elephants being transported in a giant-size "balloon" car, while about 200 employees ride in railroad coaches. The rest of the circus personnel, equipment, and smaller animals are transported in motor trucks.

Recently, when Ringling-B&B journeyed from San Antonio to Laredo, Texas, on the Missouri Pacific, and between there and Mexico City by the National Railways of Mexico, it used *four* baggage cars and several railroad coaches, in addition to its trunks.

6 *What is America's longest railway bridge?*

Lucin Cutoff, which carries Southern Pacific tracks across the Great Salt Lake in Utah. It is now being replaced by a fill, which is expected to be completed in 1960.

7 *When was the Toledo passenger station built (on Cherry St., near the Ann Arbor RR. station)? Which roads used it, and for how long?*

According to Willard B. Edson, that passenger station was completed Sept. 24, 1904 and used by trains of the Cincinnati, Hamilton & Dayton (later B&O), Pere Marquette (now C&O), and Detroit & Toledo Shore Line. First passenger run of the shore line was an excursion on May 1, 1905. The station was used about four years, mostly for excursions, about the only type of passenger trains the line operated.

Eventually the train shed was an exhibition hall for automobile and other industrial shows. It was torn down in the late's '20's. The station proper, a handsome buff-brick building, is used presently for offices of the Terminal Railroad and various small industries.

8 *I'd like information on passenger transfer facilities at Prince George and Vancouver, B.C., Canada.*

Four railways operate into Vancouver—the Canadian Pacific, Canadian National, Great Northern and Pacific Great Eastern. Two operate into Prince George—the CNR and PGE. Each road has its own passenger station.

9 *When will the first atomic-powered locomotive be built?*

Nobody knows. At present the cost is prohibitive. No railroad has yet ordered an atomic locomotive to be built for commercial use. However, private firms, locomotive builders, reactor builders, the Atomic Energy Commission and various railroad development committees are pooling their skills and resources to the extent of participating jointly in the design and development of the proposed new type of motive power.

Detailed plans have been drawn up, but if actual construction is under way it is being kept secret. We think that when railroads are run eventually by atomic energy it will be in the form of electrification, with power supplied by nuclear reactors. Right now, Pittsburgh Railways, a rather extensive system is being fed by electricity generated at the Shippingport atomic power station.

In any case, it is doubtful that if an atomic locomotive were built it would be anything but a steam-turbine electric.

10 *Explain the meaning of the term "ruling grade."*

It is a gradient on any given engine district which determines the tonnage one locomotive can handle over that district. The maximum tonnage varies for each class of power, but in every case the maximum load that one locomotive can move over the division is set by the ruling grade.

11 *How many railroad tunnels are there in the United States?*

About 1,400. In recent years many of them have been eliminated through road changes or by daylighting.

12 *What is a "29" signal?*

Not even a seasoned train dispatcher like Peter Josserand of the Western Pacific has ever heard of such a signal. Possibly you refer to Rule 29, which reads: "When a signal (except a fixed signal) is given to stop a train, it must be acknowledge as prescribed in Rule

14 (g.)" That is, acknowledged by two short engine-whistle blasts.

By stretching a point you *could* apply the term "29" signal to any train-stopping signal that is not given from a fixed location. For example, D. Stewart Baals, C&O engineer, recently reported in *Chessie News* how his 40-car freight had been stopped near Burnbaugh, Ky., by a girl motorist in stocking feet frantically waving a pair of red shoes. Her car was stuck on a grade crossing. The hogger acknowledged the signal in accordance with Rules 29 and 14 (g).

13 *(a) Are calves and sheep ever shipped in the same stock car? (b) When livestock in transit is unloaded for feed, water and rest, must the animals be fed or watered first?*

(a) Yes, but only when a partition separates them. (b) Fed.

14 *What is a train performance calculator such as the one used by the Pennsy?*

It's an IBM digital computer that makes calculation on train performance, fuel, or electrical energy consumption tonnage ratings. For example, it calculates train performance at rates varying between 700 and 2,000 miles of track per hour depending on the number of station stops, speed restrictions and grades.

15 *Did the Vandalia Line (now PRR) ever have a Mallet 2-6-6-0?*

No, the nearest to that type the line owned was a small 0-4-0 "turtle-back" switcher at their Terre Haute shops.

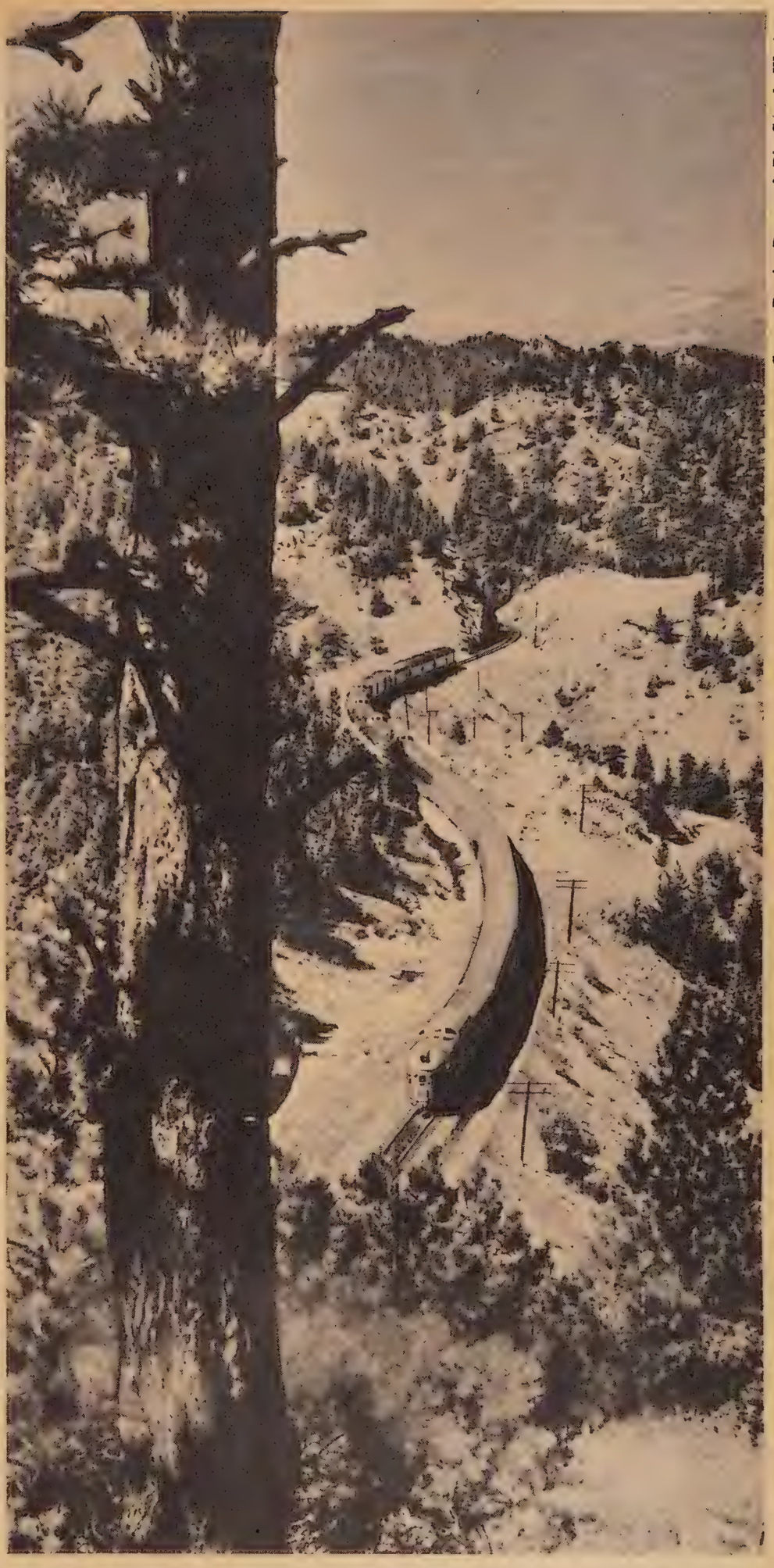
16 *Is it true that the Norfolk & Western owns more freight cars per mile of line than any other American road?*

No. It owns more per mile than any other American road longer than 250 miles.

17 *A brief history of the Atlantic & East Carolina Railway, please.*

The A&EC was organized about 20 years ago, but the rails it leased and operated were owned by the Atlantic & North Carolina RR., chartered in 1852 to build from Goldsboro to Beaufort Harbor, three miles across the inlet from Morehead City. Six years later, trains were running all the way from Goldsboro to Morehead City (96 miles), with streamer connections to Beaufort.

During the War Between the States



George Perrin, Denver & Rio Grande Western

The location is Miramonte, Colo., 34 miles west of Denver on the Moffat Tunnel Route. The Train is the *California Zephyr* which has just emerged from Tunnel 23 on its climb up the front range. The trip is most exciting for Vista Dome passengers.

Doubleheading this Reading passenger train through Mt. Carmel Junction, Pa., in Dec. '46, were No. 1555 (2-8-0 type) and No. 176 (a 4-6-2).

R. R. Malinoski, 246 Madison Ave., New Milford, N. J.

the road was captured by the Federal troops and used for military operations.

Known as the Old Mullet because of the quantities of fish shipped over the road, it played an important part in the development of eastern Carolina.

In 1882 it was leased to the Midland North Carolina RR., and in 1904 the Howland Improvement Co. acquired it for a 91-year period.

Later it was consolidated with the Norfolk Southern. In 1935 when the NS went into receivership the A&NC became state-controlled and operated independently. Last September the line was purchased by the Southern Ry.

18 *How deep is the New York subway?*

It varies. The lowest rails are in the 60th Street tunnel under the East River, 113 feet below sea level, about a mile from our office.

19 *How did the 4-10-0 type get its nickname of Mastodon?*

There is some question as to whether the 4-8-0 or the 4-10-0 is the Mastodon type. According to W. L. Kelso, Whyte's locomotive classification lists the 4-8-0 as a 12-wheeler and the 4-10-0 as a Mastodon. Many authorities refer to the 4-8-0 as a Mastodon.

The term was first applied to locomotives by the Southern Pacific in 1882 because they were enormous compared with others of that period.

The first 4-8-0 was built in 1880 for the Lehigh Valley. The Santa Fe had nine of them in 1881. The Great Northern 4-8-0, circa 1893, was publicized as the world's heaviest locomotive of its day.

20 *Explain the meaning of camp cars.*

In America, they are box or baggage cars that have been converted to house the maintenance of way, signal department or other gangs who work at one location for one or more weeks before moving on to another assignment.

In Great Britain, camp cars are railway passenger cars, somewhat like house trailers, that are rented to campers and parked on sidings near suitable vacation spots. So far as we know, this kind of service has never been available in the States or Canada.

21 *Did any railroad ever have an 0-10-0 Camelback?*

Yes, the Reading had two, built in 1886 to replace two older 0-10-0's. Numbered 93 and 183, they were used as pushers on the Falls of Schuylkill Grade. No. 183 was wrecked and scrapped in 1892. No. 93 continued in service, was renumbered 1449, Class G-2A, in 1900; scrapped in 1912.

22 *What's this I hear about the railroads having broken the sound barrier?*

Perhaps you are referring to the fact that ultra sound plays a major role in preventing train wrecks. About four years ago Sperry Rail Service developed the Mobile Reflectoscope, a device based on ultra sound. By using 20 of these gadgets to inspect 196,653 freight cars on the Chesapeake & Ohio, and other roads, they discovered 471 defective axles, one of the chief causes of train wrecks.

The Reflectoscope directs a pulse of sound into the axle and deflects part of the sound energy back into a cathoderay tube. If the axle is in good condition a clear base line appears on the tube. If defective, the line is irregular. The device locates flaws not apparent through ordinary inspection methods.

23 *Why was steam used almost exclusively on the B&O's Akron Division from early August to early September last year?*

This division still is equipped to service steam locomotives. Thus it follows that serviceable steamers would be assigned to such trackage during heavy traffic demands, leaving the diesels to carry on where steam servicing facilities have been removed.

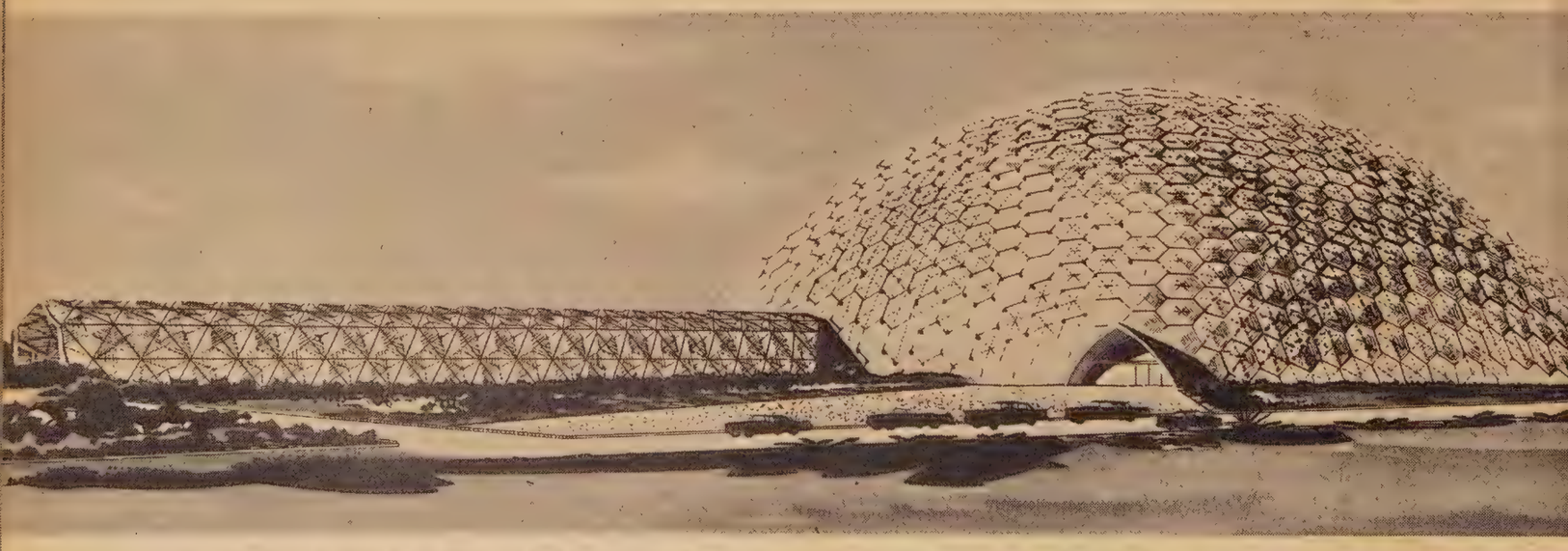
24 *Did the Jersey Central ever have Russian 2-10-0's in service?*

Yes, for a while in 1917-'18. They were leased from the U.S.R.A.

25 *I retired after 36 years of service with Railway Express. Am I still entitled to sickness benefits under the Railroad Retirement Act?*

Yes, but for a limited period after your retirement and under certain conditions. Earning $400 or more in any calendar year qualifies you for sickness benefits during the next Government fiscal year.

For example, your earnings for 1956 will qualify you for sickness benefits during the period July 1, 1957 to June 30, 1958. If you retire at the end of December '56, you would be eligible for sickness benefits from the end of active service to June 30, 1958, even though you receive an annuity.



"Union Dome," the world's largest circular building without internal supports, under construction in Baton Rouge, La., by Union Tank Car Co. of Chicago. Total cost of dome and tank-car repair facilities cost more than $1,000,000, considerably less than conventional car repair shops of this size. It is believed to be first major industrial use of a dome structure in United States.

Never again will you see No. 43 wheel the daily mixed train of the 20-mile Wadley Southern. Scrapped in Dec. '54, she belonged to the Wrightsville & Tennille, which, like the WS, is owned by the Central of Georgia, and is now completely dieselized.
Gordon S. Crowell, 24 Morris Crescent, Yonkers, N. Y.

Sickness benefits can be paid to the extent that they are greater than your retirement annuity for the same days. In other words, if your annuity amounted to $6 per day and you were entitled to sickness benefits of $8.50 per day, you would receive $2.50 daily in sickness benefits in addition to your annuity.

26 *What is the steepest main-line grade in the United States?*

The steepest we know of is 4.7 percent, i.e., a rise of 4.7 feet per 100 feet of track. This occurs on the Southern at Saluda Hill in the Blue Ridge Mountains of North Carolina.

27 *How late can a regularly scheduled passenger train be before it loses its right and schedule, and must thereafter proceed only as authorized by train order?*

Usually twelve hours.

28 *Were 4-8-0's ever used on the London & Northwestern?*

We know of one which served as a "mineral" engine for hauling coal or iron from the mines.

29 *What is the approximate cost of a passenger train?*

That depends upon the length and consist. For instance, a two-unit diesel locomotive costs about $424,000; a baggage car about $48,000; an express car about $40,000; three day coaches $144,000; a dining car $190,000; four sleeping cars $180,000; an observation car $250,000. Total cost of a 14-car train adds up to about $2,152,000.

30 *Which was the last Vulcan compound on the Lehigh Valley?*

No. 597, a 2-8-0 Camelback with 13x21x24 cylinders, built by Baldwin in 1891. In 1905 she became No. 500, Class M-1. Later that year she was rebuilt at Wilkes-Barre, Pa., with 20x24 cylinders and became No. 594, Class M-17.

31 *Did the Canadian Pacific ever have any 0-10-0 switchers?*

Yes. They were Class W-1.

Running Extra

When you answer a question requested in Information Booth or Running Extra, be sure to mention the item number and date of issue.

ROBERT LE MASSENA, 1795 So. Sheridan Blvd., Denver, Colo., asks if any 0-4-4-0 types were built for service in this country or Canada, other than the one Vulcan delivered to the Dick Construction Co. (1944 edition *Locomotive Cyclopedia,* page 1037).

WHO can give data on geared engines, especially Heislers, to R. G. Nugent, 243 Main St., Dansville, N. Y.? He wants to know about those that operated on small lumber roads in New York and Pennsylvania. The roads interest him as much as the engines.

COMPRESSED AIR. Hugh R. Gibb, treasurer of National Railway Historical Society, 436 Orchard Rd., Newark, Del., comments as follows on Item 21, April:

"Air as a propulsion method was used on various European lines a century ago. Atmospheric traction consisted of a continuous cast-iron pipe laid between the rails from which the air was exhausted by steam pumping stations.

"Along the top of the pipe was a continuous slot covered by a greased leather flap to form a valve. Through this slot the traction carriages were connected to internal pistons. By lifting the flap, air was admitted in the rear of the piston, causing it to shoot forward along the tube in which the pumping engines maintained a constant vacuum.

"A roller on the train closed the flap-valve in the rear, and after the carriages had passed out of each section the air was quickly exhausted again, in readiness for the next train.

"Among the railways to operate on this principle were the London & Croydon, 1845-'47; the Dublin & Kingstown, 1843-'55; the South Devon, 1847-'48; and the Paris & St. Germain, 1847-'60.

"Maintenance costs proved so heavy that all these lines returned to conventional locomotive operation."

Harris & Ewing, British Railways

England's smallest station is said to be this one on the British Railways at Blackwell Mill, Derbyshire, where the mill boss is also the station master and postmaster. A once-a-week train stops here every Saturday to take shoppers to nearby Buxton.

ACCORDING to R. A. Edelman, 2205 Coral St., Philadelphia, Pa., information on Reading steam power (caption in Feb. issue) is incorrect.

He says timetable No. 8 for the Philadelphia Division indicates that a few T-1 hogs operate out of the Rutherford engine house for use on the Upper Reading and Schamokin divisions. Nevertheless, our data came from the Reading Co. itself.

FRED McKINNEY, Box 542, Harden City, Okla., wants a history of the Wabash.

INFORMATION on armored trains of the type used in World War I, is sought by Charles Schedel, 292 Born St., Secaucus, N. J., who plans to build a model in HO scale and needs details or plans.

IN ANSWER to Tom Hickman's request for information on the Boyne City RR. (April issue), Hugh Stephens, 223 Trenton Blvd., Sea Girt, N. J., has this to say:

"Originally the Boyne City & Southern, it was succeeded in 1905 by the Boyne City, Gaylord & Alpena which, upon completion, ran from Boyne City, Mich., to connect with the Detroit & Mackinac at Alpena Junction (92 miles). It was standard gage; had 8 locomotives and about 200 cars.

"The line was primarily a lumber carrier and when the territory it served was 'timbered off' the inevitable shrinkage continued until it was reduced to local switching service. As far as I know, it is a freight-only road running from Boyne City to Boyne Falls (7.2 miles), where it exchanges freight with the Pennsy."

RICHARD GIBBONS, 117 Bacon St., Natick, Mass., wants an all-time list of geared steam locomotives in the United States.

THE stopping distance of a diesel-powered passenger train (item 34, Feb.) is questioned by August H. Tuenge, (Union Pacific engineer) 502 W. 122th St., North Platte, Neb. He refers to A. T. Hitchcock's statement that a 20-car train running at 70 mph could not be stopped under 4,200 feet. In his opinion it would travel 61.6 feet per second, 308 feet in five seconds and another two seconds before the last car would be set. Then it would travel about 1,500 feet before reducing speed to 52 or 48 mph.

REFERRING to Hal Lowe's query on used narrow-gage engines (Feb. issue), H. O. Strum, 1660 Llanfair St., Cincinnati, Ohio, suggests the Argent Lumber Co., Hardeeville, S. C., as a possible source.

"NOT all jerkwater towns had facilities for locomotives to take water on the fly," says Robert Riddle, Box 543, Fort Scott, Kansas. "Some had trackside barrels or wells where engines were watered by means of buckets." (Item 14, April issue.)

SEVERAL readers have sent in additional facts in response to Paul Rehn's question regarding the Okmulgee Northern (Feb. issue). This Oklahoma line which extended from Deep Fork to Okmulgee, owned three steam locomotives, three gas electric cars and one caboose. Its operating office was at Okmulgee.

ANSWERING many questions: Our Jan. '53 issue carried a complete list of all electric-line articles published in this magazine prior to that time. Our March and June '55 issues listed all motive power rosters which we pub-

Full-range combination diesel-electric such units, which develop 1,750 hp as

lished prior to July '55. Our Oct. '55 carried a complete list of U. S. and Canadian railfan clubs and railfan publications as of that date.

Our supply of back issues of *Railroad* is very limited. We have one or more copies left of about half the issues for the past ten years, none earlier, no Jan. '53, March '55, or Oct. '55, and none of 1956.

Back issues not obtainable from this office may be purchased from Owen Davies, Grahame Hardy, Arnold Joseph, or other persons listed in our *Switch List.*

RED LOCOMOTIVES have stirred up considerable interest. Here is an item from Stanley T. Borden, 754 Stanyan St., San Francisco, Calif.; "Up until a few years ago all locomotives and passenger cars on the Dominion Atlantic Ry. in Nova Scotia were painted the standard Canadian Pacific maroon. At that time all DAR locomotives had their names inscribed on bronze plates fastened to the running boards."

He goes on to say that the Klamath Northern also had a red engine.

JOHN WOOD, Box 60, Moose Factory, Ontario, Canada, would like a brief history of the Condon, Kinzua & Southern, operating south from Condon, Ore., where it makes connections with the Union Pacific.

ALL-TIME Long Island steam roster, including Pennsy leased power, is sought by Raymond Jensen, 99-02 216 St., Queens Village 25, N. Y.

W. H. BERMAN, 230 Ocean Parkway, Brooklyn, N. Y., suggests that we add the following to our list of railroad exhibits and museums (item 21, Dec.):

He says there's a museum on Main St. in Honesdale, Pa., that has a working model of the Stourbridge Lion. Just west of the town, on U. S. Highway 6, there is an exhibit which includes a full-size replica of the famous engine, as well as a gravity car. He goes on to say that more gravity cars may be seen at Noy Aug Park, Scranton, Pa.

Detroit Historical Museum, Woodland Ave., Detroit, Mich., has pictures and models of trains and trolleys.

CARSON & COLORADO history is wanted by Billy Loeffler, 129 Rhodes Drive, New Hyde Park, N. Y.

HOWARD SHOTTENFELD, 85-77 Chevy Chase St., Jamaica, N. Y., would like to meet fans in the New York area who have tape recordings of Long Island or Jersey Central steam power.

WANTED by Edward Wiley, 142 N. Main St., Bel Air, Md., brief histories of the Las Vegas & Tonopah, the Tonopah & Goldfield, and the Bullfrog & Goldfield.

BRUCE DODSON, East Main St., Hopkinton, Mass., asks for a history of the Lawndale narrow-gage and disposition of its engines Nos. 4 and 5 (pictured in April '43 Railroad Magazine).

ONE of our Canadian readers asked 13 questions in a single letter. Unfortunately neither time nor magazine space permit us to answer such fans in detail, much as we'd like to oblige. One question (two at the most) is enough for any letter. Even at that it is impossible to handle all queries.

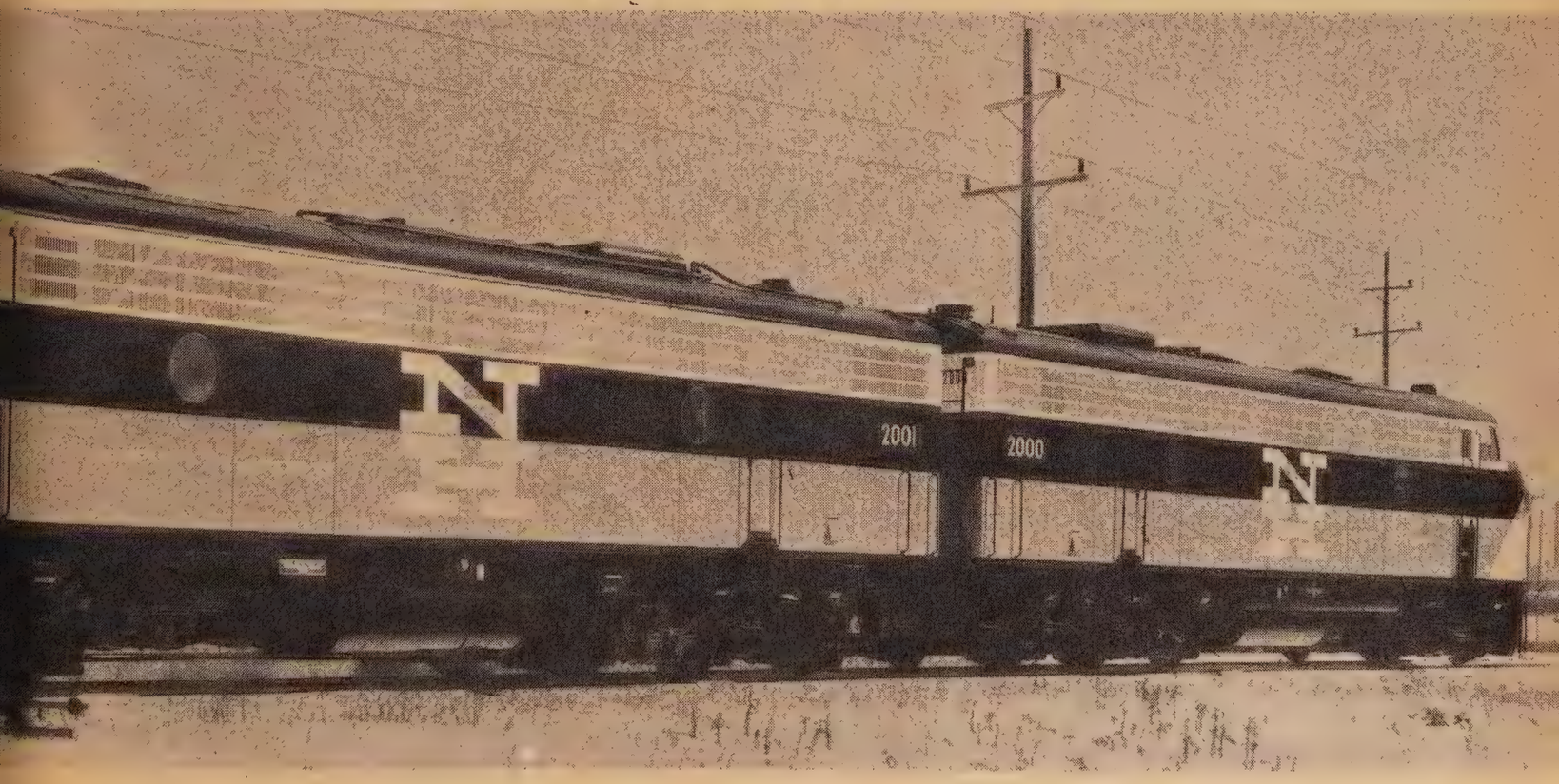
When space permits, we will print requests for histories of various roads in *Running Extra* if we cannot confine them to this department.

HENRY CHILDERS, Box 145, Union Mills, Ind., wants histories of the Susquehanna and the Monon.

A BRIEF history of the 49-mile Galveston, Houston & Henderson is wanted by Robert Hicks, 12236 Gorham Ave., West Los Angeles 49, Calif.

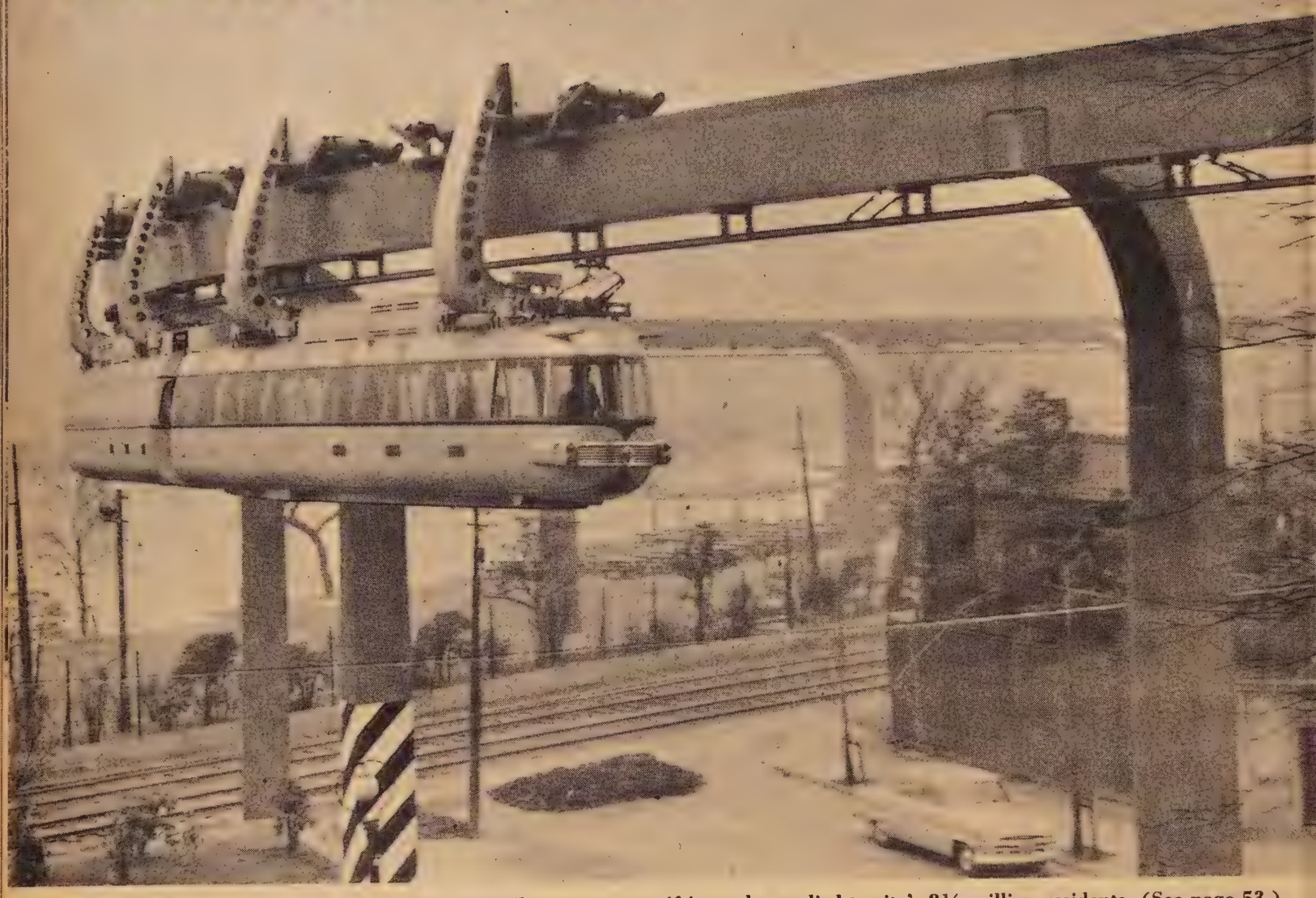
DAN MATHESON, 63 Lombardy Crescent, Scarboro, Ont., Canada, is interested in a history of the New Brunswick & Canada (now part of the Canadian Pacific).

and electric locomotive, General Motors FL-9, is a new product with GM's Electro-Motive Division. The New Haven has 30 a diesel-electric. They eliminate the need to change engines for hauling trains in and out of New York's Grand Central Station.



Steve Maguire's

TRANSIT TOPICS



City government of Tokyo is testing monorail system to see if it can be applied to city's 8½ million residents. **(See page 53.)**
Sinichi Miyazaki, 1299 Ohno, Inaba-Cho, Inaba-Gun, Gifu-ken, Japan

SHADES of Pharaoh! The quaint little trolley line that used to run through several miles of Sahara Desert from Gizeh, a suburb of Cairo, to the Sphinx and the great pyramids has been abandoned. For many years it was popular with tourists, but buses and private motorcars have crowded it off the old Egyptian sands. So says *The Modern Tramway*, monthly organ of the Light Railway Transport League of Great Britain.

Steve Maguire

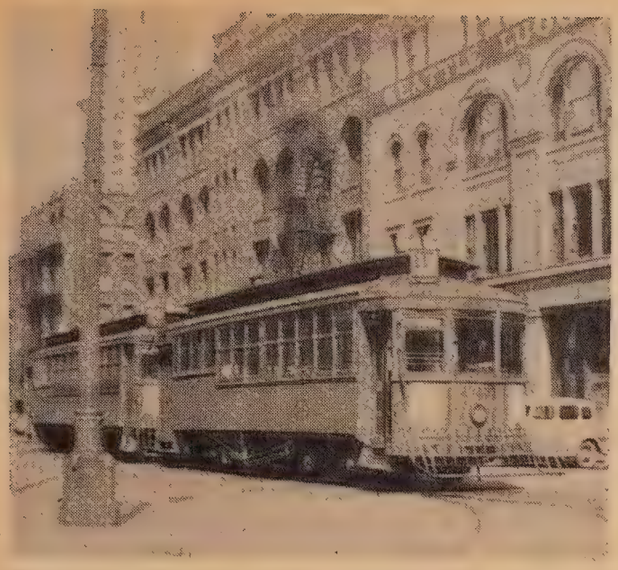
THE INTERNATIONAL trolley line from El Paso, Texas, across the Rio Grande to Juarez, Mexico, is unusual in two ways. The fare to Juarez is ten cents or a 7½-cent token, but the return fare from Mexico is 10 cents, a 7½-cent token, or 15 *centavos*, the last-mentioned being equal to 1½ cents in U.S. currency. Thus the fare depends on the direction you travel. It is probably the only line in North America where you can ride nine miles for 1½ cents.

Speaking of Mexico, the ten PCC's recently shipped from Kansas City to Tampico have gone into service as extra-fare equipment on the long line to Miramar, with the older cars there remaining in regular service. The new cars of the Tampico-Miramar *S.C.L. Servitos Electricos* are painted green and cream and they still retain their old Kansas City numbers.

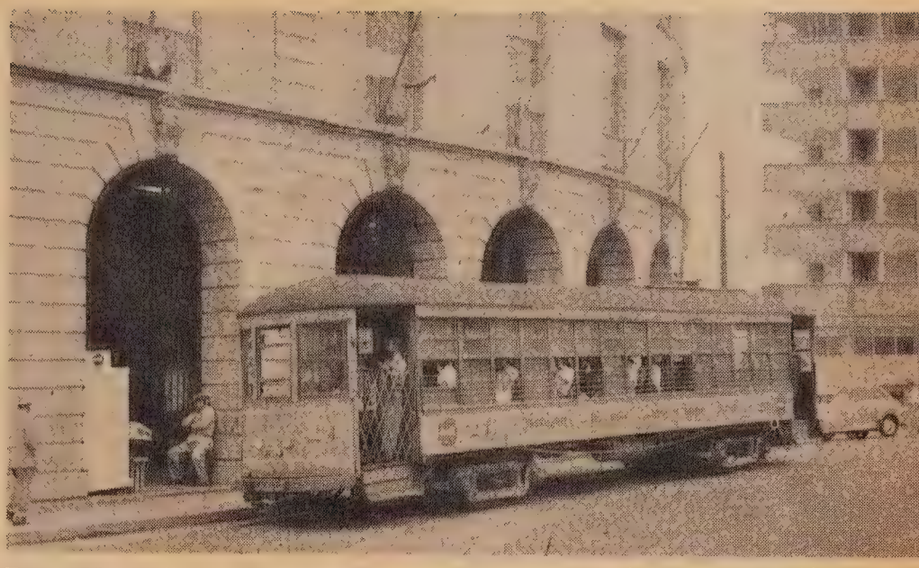
BOSTON'S Metropolitan Transit Authority *may* run trolleys along the Boston & Albany's present Highland branch, which B&A wants to abandon. C.L. Smith of Boston reports that if the application filed by B&A is granted, the MTA will establish a new, high-speed trolley line on that route, using a rehabilitated roadbed of the two-track line to Riverside, Mass., starting just west of Kenmore Square.

MTA has been rehabilitating and repainting five of its type 3 old trolleys, according to Authony Tieuli, 159 Highland St., Revere, Mass. The remainder, about 25, will be scrapped after 30 years of service.

MONORAIL projects continue to pop up here and there. For example, Detroit is facing the possibility of a



Route 15, Broadway line, Seattle, 20 years ago.



Down Mexico way: No. 23 of Tampico-Miramar line at Tampico Plaza.

All photos on this page by Steve Maguire, 1411 River Rd., Belmar, N. J.

$172 million such network on six of its main thoroughfares, reports Alex. L. H. Darragh, 1214 Bedford Rd., Grosse Pointe Park, Mich.

In bringing up this plan, the city's Rapid Transit Commission threw out the contention of General Manager Nowicki of Detroit Street Railways that busses could provide rapid transit for the whole area by using the freeways. We've heard such arguments before from men who'd like to see buses running on the already-crowded streets and highways.

Said the Commission: "Any public transit providing fast service must necessarily be separated from the flow of surface traffic. We still have congestion and tie-ups on the expressway and they can never be eliminated entirely."

The monorail would have cars suspended from inverted L-shaped structures based along the curbs, with trains running about 15 feet above the streets. The Commission favors a *split-rail* system patterned after a proposal made not long ago by a transit-survey body in San Francisco, but it would not insist upon that form of monorail.

AS WE GO to press, Willow Grove route of Philadelphia Transportation Co. is still a trolley line, although PTC has been granted approval to convert it to buses. According to Alfred Achtert, Jr., 831 Pleasant Rd., Yeadon, Pa., the cars will probably be replaced by buses before you read these words.

Mr. Achtert relates a sidelight on the hearings to convert this line: "Officials of a school adacent to the right-of-way testified that trolley operation was a hazard for their students. Perhaps the reason for this peculiar testimony was that the school had been promised part of the right-of-way for an addition to its athletic field. Draw your own conclusions."

SUCCESS STORY. Most railroad men have invented something or other. W. Russel Lummis's brain-child is the Key-Bak. Russ was a Pacific Electric motorman working out of Pasadena, Calif. He designed this gadget originally for switchmen. It is a strong reel encased in a pocket-watch-size case with a 24-inch stainless-steel chain on which switch keys and other objects can be attached. Worn at the belt, it allows you to carry keys handy on your belt where they are safe and available for instant use in any kind of weather.

Ten years ago, while he was working for PE, Russ and his wife Dorothy began assembling Key-Baks in the kitchen of their home at night and on week-ends and holidays. The demand grew so fast that Russ quit railroading and has since been devoting full time to this device. Says he, "More than a million of 'em have been sold."

RESULTS of the operation of Cleveland and Toronto rapid transit lines are cited by both the Detroit Commission and a group in Seattle, Wash. Actually, 20 percent of Cleveland's auto riders have been won back to rail-transit service from the buses running in congested traffc.

From Walter Thayer, Box 1588, Chelan, Wash., we learn that Seattle's Metropolitan Transit Commission, urging a rapid-transit plan for the area, mentions the 5100 trips per day now being made on CTS lines by former automobile commuters.

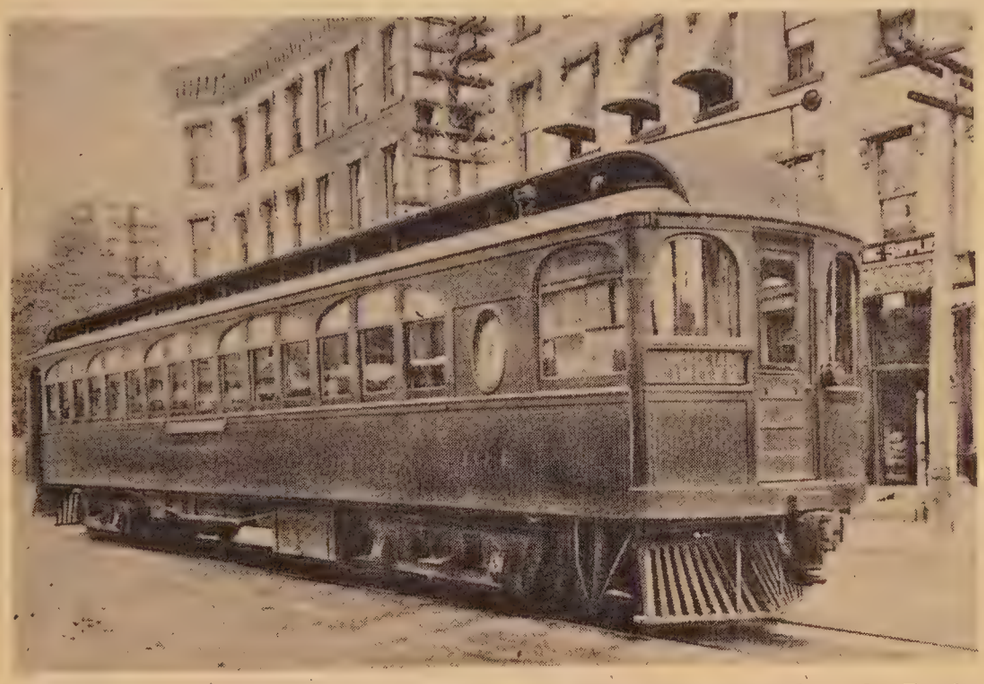
The chairman of Seattle's transit group, Richard Ruddell, explained that streetcars can move at an average speed of from 35 to 40 mph., including stops, as against 10 mph. for buses. Moreover, rapid-transit facilities can be built for about one-quarter the cost of motor expressways capable of carrying as many people, and the streetcars would occupy only one-tenth of the right-of-way.

V. E. Gunlock, chairman of the Chicago Transit Authority, has this to say of the need for fast, dependable transit in urban areas, in commenting on CTA's annual program for expanding rail facilities:

"Unless our administrators face up courageously to the fact that everyone cannot be moved in the private automobile, and put some of their huge sums into facilities that will assure the maximum in efficient moving of peo-

Portland Transportation Company car 4016, ex-PE, at Portland, Ore., terminal.

Exit the world's last El gate cars! Until recently they ran in Brooklyn, N. Y. Photo shows one of them (left) standing beside one of the cars which replaced them.
Ernest B. Webber, 6019 Putnam Ave., Brooklyn, N. Y.



Oldtimers in upstate New York remember the *Schenectady Limited* on the Fonda, Johnstown & Gloversville. (Illustration from FJ&G book reviewed on page 52.)

ple, I predict that we shall wind up within a few years with these huge highway sums spent and only worse congestion obtained for our large metropolitan areas."

THE LAST gate cars to run on any elevated railway on earth were finally pulled out of service on the morning of April 4th, reports Ernest B. Webber, president of the Ridgewood Property Owners Association, 6019 Putnam Ave., Brooklyn 27, N. Y.

For many years those cars polished the rails of the Fulton Street El in Brooklyn. Next they operated to and from the New York World's Fair, and then on the ancient Third Avenue El until it was torn down, and finally were refurbished and ran on the Myrtle Avenue-Jay Street line until even older Q cars replaced them. The Q's had been overhauled and converted from manual-gate to multiple-door operation about 20 years ago. They are built of wood reinforced with steel.

As we go to press, the recently abandoned gate cars may be seen gathering rust forlornly in Fresh Pond Yard until they can be sold or junked. They served a great city long and well. Much money was spent recently to improve the Myrtle Avenue El.

PORTLAND, Ore., is still smarting under the very abrupt ending of its streetcar service on Jan. 25, as reported in our June issue. Additional details come from George Chopé, 6530 S.E. 63rd St., Portland. The streetcars were not allowed even to complete their night's schedules. Portland Traction Co. ordered its operators to keep car doors closed and pick up no more passengers after 8:15 p.m.

To make matters worse, PTC announced two days later that it had no intention of resuming passenger service but would keep its profitable freight business. This arbitrary action climaxed six years of PTC feuding with Oregon Public Utilities Commission over the company's efforts to give up its rail passenger service on two lines out of Portland. During those years the Commission had allowed several fare rises on the inter-urban line, even while PTC was purposely discouraging its patrons.

PTC apparently offered no objections when competing bus companies sought franchises on routes paralleling the rail lines, even to run buses ahead of the trolleys! Yes, PTC was losing money on passenger service, but even that does not excuse the high-handed decision to end this service suddenly at 8:15.

YEARS AGO a narrow-gage storage-battery line ran between Towson and Timonium, Md., the battery being so weak that often, when the car was climbing a hill, passengers had to get out and push it over the hump rather than stay aboard and be stalled. This information comes from H. H. Diers, Washington, D.C.

"Today, Baltimore's longest trolley line," he adds, "is Route 2, between Towson and Catonville, Md., 16 miles, one of Baltimore's last surviving trolley routes. I believe it's the only trolley route left anywhere that starts in an outlying part of a county, runs clear through an independent city, and terminates elsewhere in the same county."

OHIO's last sizeable piece of old interurban trackage, the Toledo & Eastern, has just been granted ICC permission to abandon its 11-mile freight line from Toledo city limits at Ryan to Clay Center, reports F. D. Cairns, 4331 Vermas Ave., Toledo. It was the sole remnant of the Ohio Public Service line that ran from Toledo to Marblehead and Bay Point, 22 miles. Starting in 1904 as an interurban, it gave passenger service until 1939, being the last of 15 interurbans that used to enter Toledo on ten sets of tracks.

PIEDMONT & NORTHERN, a former interurban line, is still operating juice locomotive No. 5103 on Mint Street, Charlotte, N.C., because a bridge there is too small for diesels, says Tom Fetters, Box 2857, Clemson, S.C. However, a widening job now under way will soon end this operation on the last electric line in the Carolinas.

REMEMBER the ex-Toronto trolley that a reader discovered operating in the Canadian National yards at Ft. William, Ont., about two years ago? Well, Captain Homer G. Benton of Ft. Lewis, Wash., has sent us a color slide he took in the Duluth, Missabe & Iron Range yards at Proctor, Minn. It shows a former Twin City Rapid Transit streetcar typical of the wooden cars that ran in Minneapolis and St. Paul in the early 1900's.

Instead of being operated by trolley pole, it has its own power contained inside. This car, No. W-56, was bought in 1939 from the nearby Duluth-Superior Transit Co., which had folded up that year. It weighs 55,000 pounds, has a seating capacity of 36. A four-traction GM diesel unit supplies power. It runs between the plant gate at Proctor and the enginehouse, about a mile apart, making three or four round trips an hour, carrying employes to and from work.

Incidentally, DM&IR does not take kindly to railfans. Anyone who wants to photograph W-56 should contact the road beforehand.

LAST interurban car to serve the traveling public on the once-vast British Columbia Electric system at Vancouver, B.C., was No. 1225 that ran February 28th from Steveston to Marpole, B.C., with 68 passengers, mostly railfans, reports Ernie Plant, Box 40, Horseshoe Bay, B.C., Canada.

New modern equipment being operated by Metropolitan Transit Authority of Boston includes two-car-unit PCC's built by Pullman-Standard Car Manufacturing Co.

Later that day an official last trip was made for the press and invited guests, two two-car trains being draped with flags and bunting. Freight service will carry on until about the end of 1958, when diesels take over. BCE is the only electric railway left in northwestern North America.

IT IS DOUBTFUL if many Los Angeles passengers just before 8 a.m. on March 3rd realized that the buses and trolleys they were riding had suddenly changed ownership. Yet it happened. The L.A. Transit Lines and the Metropolitan Coach Lines were taken over by a new public corporation, the Los Angeles Metropolitan Transit Authority, which the state legislature had established to run the area's rapid-transit lines.

Total price paid was $34 million. The new setup acquired 207 street cars, 109 trolley buses, and 721 buses from LATL; 71 trolleys and 711 buses from MCL, and 51 buses from an MCL subsidiary, Asbury Rapid Transit. These vehicles, 1870 in all, had been operating over 1706 route-miles in the Los Angeles area, but changes under unified control have shrunk the mileage somewhat.

Although LAMTA has long-range plans for mass rapid transit by rail, none of them will mature for five years. We fondly expect that 15 years hence the most desirable rail routes in the area will be running full-scale. The outlook for existing rail service is not bright. The Bellflower line will be abandoned, and probably ex-Pacific Electric rail lines to Long Beach and San Pedro. Buses will take over.

Eventual discontinuance of streetcar service on the former LATL routes looms as a distant project. Meanwhile, the rail cars will carry on for a while, probably in order to get the utmost use out of the PCC fleet new serving most lines. We can't find much joy in LAMTA plans thus far. However, at some future date the city *may* get an efficient, fast, rail-transit system as a sort of successor to the old Pacific Electric.

A DEATH BLOW to rapid-transit plans for Cook and DuPage counties, Illinois, would be dealt by the Chicago, Aurora & Elgin scheme to abandon its entire line from the big city to Wheaton, Aurora, and Elgin, reports Raymond Kucera, 3008 S. Kolin Ave., Chicago.

CA&E is seeking permission to drop its present freight operation, to end permanently its now-suspended passenger runs, and to dispose of its cars and right-of-way, the latter for a big profit in a developing residential area.

With Congress Expressway and its rail tracks in the median strip nearly completed, it would be most unfortunate if CA&E were to quit all service before a further move could be made

Once Twin Cities Rapid Transit streetcar, W-56 now hauls DM&IR yard employes.

Both photos on this page from Reading Lines

This roster is our way of saying "Happy Birthday" to the Reading, which is celebrating its 125th anniversary and has just issued a 60-page history, copiously illustrated. Here is car 363 as it looked in the days when it had an RPO section.

READING "MU" EQUIPMENT

Roster compiled by Sy Reich

Class	Road Nos.	Type	Trucks	Weight	Motors	Controls	HP	Bldr.	Date
EPA	800-825	a-r coach	Taylor	127,000	WH	WH	600	BS	1931
EPA	826-840	a-r coach	Taylor	125,400	GE	WH	550	BS	1931
EPA	841-856	a-r coach	Common.	127,300	GE	WH	550	BS	1931
	859,860								
EPA	857,858	a-r coach	Common.	127,000	GE	GE	550	BS	1931
EPB	861-888	a-r coach	Taylor	126,750	GE	WH	550	BS	1932
EPC	889-896	a-r coach	Common.	158,300	GE	GE	1200	ACF	1949
ECA	300-306	a-r combine	Taylor	125,000	GE	WH	550	BS	1931
ECB	307-308	a-r combine	Taylor	126,850	GE	WH	550	BS	1932
ECC	363,364	a-r combine	Taylor	130,200	WH	WH	600	BS	1931(1)
ETE	780-798	a-r coach	(2)	112,500	trailer			(3)	1925(4)
ETF	772-779	a-r coach	(2)	110,320	trailer			(5)	1925(6)
ETG	799	a-r combine	(2)	118,800	trailer			(3)	1925(7)

Notes and Abbreviations

ROSTER accurate as of April 1, 1958. Weight in pounds. Abbreviations: a-r—arch roof; Common.—Commonwealth; GE—General Electric; WH—Westinghouse; BS—Bethlehem Steel Co.; ACF—American Car & Foundry. (1) rebuilt 1956; (2) not available; (3) converted by Bethlehem Steel; (4) converted 1931; (5) converted by ACF; (6) converted 1949; (7) converted 1931, rebuilt 1956.

Principal dimensions: Classes EPA EPB, EPC, ECA, ECB, ECC—length over vestibule and sheets, 70'-11¼"; length coupled, 72'-5½"; width over side sheets, 9'-9⅜"; height, 13'-5 3/16". Classes ETE, ETF, ETG—length coupled, 71'-11½"; width over side sheets, 9'-9⅜"; height, 13'-4⅞".

Cars are painted dark green with light green window area; black roof and underbody. 11,000 volts AC collected from catenary by pantographs. Brakes are AMUE on motors, ATUE on trailers. Compiled from data supplied by Superintendent of Motive Power and Rolling Equipment, Reading Co. ●

Commuter rush-hour traffic creates jobs and goodwill but doesn't pay for itself.

to connect it with those expressway tracks to downtown Chicago. Once gone, many millions of dollars would have to be spent at a later date to buy a right-of-way for rapid transit or even for an express highway that will have to be built one day in the same area.

FINALE for Milwaukee & Suburban trolley service came March 2nd when the farewell car rolled in from its run to West Allis, reports Bob Heglund, 464 N. Washington Ave., Waukesha, Wis.

Still operating in Milwaukee is, of course, the North Shore line to Chicago. In St. Francis, a suburb, a lone ex-Milwaukee city car connects the South Milwaukee bus line with Lakeside power plant for the latter's employees. Milwaukee's only other juice operation is freight service on the City of East Troy line and on the Wisconsin Electric Power plants at Fort Washington and Lakeside.

New Publications

Steam and Trolley Days on the Fonda, Johnstown & Gloversville RR., co-authored by William R. Gordon and David F. Nestle, is the result of an intense effort to get a full account of the line from old employes. In 64 pages, 8x11, the authors related interesting stories of the FJ&G, which at one time operated steam and electric service independently and which still gives diesel freight service.

The book includes all-time steam and electric rosters, maps, and many good photos. Copies are available from William R. Gordon, 811 Garson Ave., Rochester 9, N. Y., at $2 each.

Ira Swett, 1416 S. Westmoreland Ave., Los Angeles 6, Calif., has just issued another continuing history of the Pacific Electric, 28 pages, entitled *The Western District.* It covers in photos and text the PE lines that operated to Venice, Santa Monica, Hollywood, Burbank, etc., from 1911 to abandonment. One dollar a copy.

Seashore Electric Ry., the trolley museum at Kennebunkport, has published a new 38-page illustrated catalog of its operations and of each of the 62 cars in its collection. Entitled *The Trolley Museum,* it may be obtained for one dollar from Dwight B. Minnich, Seashore Electric Ry., Kennebunkport, Maine.

Newest acquisition of the Seashore

museum is cable car No. 105 from Dunedin, New Zealand. It was presented by Sir Leslie Munro, the Ambassador of New Zealand. During World War II many American GI's rode on No. 105 when in Dunedin. The city had several cable routes and many streetcar lines, but 1957 saw the end of them.

Monorail in Tokyo

TOKYO is testing a full-size operating model of a monorail which the city government set up last Nov. 17th in its Ueno Park Zoo, near the camel building, to determine whether or not such transportation can be applied to the city's 8½ million people.

Sinichi Miyazaki

The two-coach electric train, built by Nippon Syaro Co., weighs 12 tons and carries up to 62 riders at a time along a single track suspended 15 feet above ground. Our photograph of it comes from Sinichi Miyazaki, 1299 Ohno, Inaba-Cho, Inaba-Gun, Gifu-ken, Japan, who made a 12-hour round trip by rail to Tokyo especially to get the picture for *Railroad Magazine* that is on page 48.

Sinichi is learning to speak and write English and sends us Japanese railway news and pictures. He works for Japan's largest privately-owned railway, Nagoya Electric, plotting graphs for train schedules.

"I hear rail passenger business in U.S.A. is on the decline, mostly due to highway competition," he writes. "Japan has no such decline. Our highways are poor and narrow, our automobiles few. Only railways handle rush-hour traffic here. Electric trains very crowded. The company I work for has 620 cars. At cherry-blossom time we run extra trains for many sight-seers."

Further information on the Japanese monorail may be found in *Monorail*, 1957, a pamphlet issued by the Tokyo Metropolitan Government, Transportation Bureau, and in *ERA Headlights* for Nov. '56 and Feb. '58 (published at 145 Greenwich St., New York City). ●

Coming in our next issue (October, out July 31): Detailed list of all the streetcar and interurban lines still operating in North America, compiled by Steve Maguire.

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FOR every word that has left the lips of bishops or statesmen to enlighten man, a thousand have been withheld. For every book publicly exposed to the inquiring mind, one hundred more have been suppressed—*damned to oblivion.* Each year of progress has been wilfully delayed centuries. Wisdom has had to filter through biased, secret sessions or ecclesiastical council meetings, where high dignitaries of state and church alone proclaimed what man should know.

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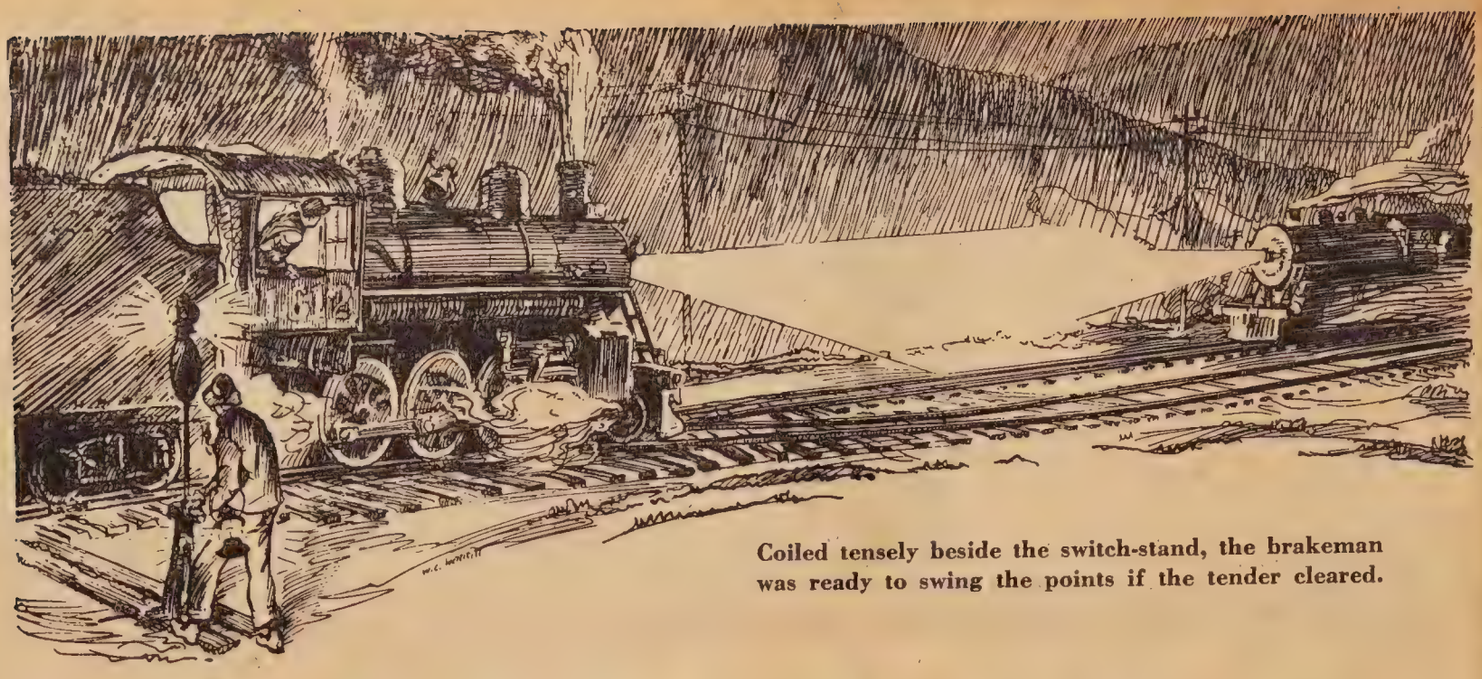

Coiled tensely beside the switch-stand, the brakeman was ready to swing the points if the tender cleared.

Moonshine

A RAILROAD classic, copyright 1939 by Popular Publications, Inc.

The Code of the Locomotive Cab Forbids the Fireman to Touch a Throttle, but Suppose a Hogger Doesn't Know He's Running Into a Cornfield Meet and Won't Listen to Facts?

by HARRY BEDWELL

FIRING a hog for "Big Boy" Watson was enough to give you the jitters. Big Boy's demands, like his hulking body, were enormous. When you rolled down the high iron in the cab with him, besides keeping the boiler hot you had to be conscious of everything else that went on.

Phil McKay did his best to avoid trouble. Phil was lean and wiry and naturally high-strung, and his efforts to please the overgrown engineer hair-triggered his reactions. The young fireman had been over the Cardigan Division so often that he believed he knew every aspect of it, day or night, calm or storm. He could tell by the flicker of a distant headlight or by thin smoke on the horizon the exact location of a train miles ahead. He could also determine whether or not it was standing still, as well as its speed if coming toward them.

He had, moreover, a keen memory for train orders and timetables, and he never overlooked any traffic that affected his train. In black night, without even peering outside, Phil could usually gage from the lurch of his engine where they were. He was quick to catch signals as they hove in sight. All these instincts had been sharpened by his work with Big Boy. In fact, he was too much alert for his own good.

You reached Lakeland intersection from the west through a cut and on a curve, and when you got close to the interlocking tower your train straightened out. Phil knew that spot like the palm of his right hand. A bluff swung around to the left of the tower, and under it glittered a lake.

One April night that Phil would never forget, a full moon silvered the landscape but the bluff facing the engine as it approached lay in its own shadow. An arm of the lake stretched into the light. At that precise moment when the interlocking plant's signals flashed on them, the moon-image shone brightly in the water against a dark background of shadowy bluff.

That particular aspect had never before greeted Phil McKay. It was new and startling. To him it seemed like the headlight of an engine that had just cleared the interlocking plant and was headed straight into them.

Big Boy, who hadn't bothered to shut off and approach the intersection under control, became cautious at the sight of signal lights. He applied his brakes quickly, thus strengthening the illusion in Phil's sensitive mind.

The harsh screaming of the air plus the grunt of brakeshoes sounded like an emergency brake application. Phil thought his hogger also

had seen the locomotive right on top of them and had "big-holed her."

You couldn't reasonably take time to study a situation like this. Phil acted fast. The moon-glow that looked like a locomotive headlight wasn't ten car-lengths away. He whirled to the gangway, dropped to the bottom step, and unloaded. All in one second!

The youth was flung headlong down an embankment ballasted with cinders. The cinders tore off considerable clothing in addition to skin from his face and hands and knees. He was also badly bruised, but the worst damage was to his prestige. This he would soon discover.

Engineer Watson hadn't seen him jump. The lights signaled clear through the interlocking plant, and the big fellow let off his brakes and rolled on down the main line. He had gone a mile beyond the intersection before it occurred to him that he no longer had a fireboy, and a half-mile further before he decided to stop and find out why.

IT TOOK Phil a limping forty minutes to catch up with his train, and the rest of his life, more or less, to explain what had happened. From the wisecracking callboy to the dignified Mr. Frome, road foreman of engines, the personnel of the Cardigan Division had a field day kidding Phil McKay, and Big Boy Watson himself led the pack.

The unhappy fireman found refuge from the tormentors for a few days while he laid off work to grow new patches of skin and treat his bruises. But when he reported back to the roundhouse, everyone apparently had forgotten his real name. "Moonshine," they dubbed him, and it stuck like a visiting mother-in-law. Merely to yell, "Hey, Moonshine!" was good for a laugh any time. Phil writhed in ignominy.

Big Boy led the pack and revived the epithet whenever it seemed to be dying out.

But Big Boy was no throttle artist. That lummox had his own method of handling trains. He never moved the Johnson bar until he had to, and while he was seated at the throttle he looked like a cross between a zombie and an oversized kewpie doll. His placid, flaccid, assured air impressed the men who rode swivel chairs. Any one of them would have said offhand that Watson was a capable runner. Moreover, he had the craft to invent plausible alibis and the gall to put them over.

So the firemen assigned to Big Boy were pretty much at his mercy. Phil could not break away from him because of the incident at the interlocking plant. Any attempt on Phil's part to bid off the unwanted run was met with raised eyebrows and a not-too-veiled reminder of his skittishness.

Well, one day he had a Baldwin Consolidation lined up for Number 28, a mixed drag east, and that added to his woe. Big Boy would beat her, as he did all engines, but the mighty 1612 was temperamental and wouldn't take abuse without kicking back. Phil would have to

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bail coal all the way. The 1612 and Big Boy had lamed his back before. Plenty of firemen could testify to that sort of treatment.

The roundhouse was sighing and whispering with steamy locomotives. Machinists' hammers made an echoing uproar under the soot-blackened roof. A boilermaker backing out of a cold firebox pulled his tools after him and said, "Hiya, Moonshine!" That name still made the tips of Phil's ears burn.

Phil climbed the ladder to the cab of the 1612 and stowed his lunch morosely in the seatbox. There had been plenty of time for the gang to forget that moonlight incident, but it lingered on like a head cold and was blocking his advancement. He swung open the firebox door and squatted and peered. The fire, he decided, was no more than a slag heap smoking in a cave. Grimly and expertly he began to build up the temperature in that cavern.

Pretty soon he felt the deck vibrate as a large, heavy body moved up the ladder. Engineer Watson squeezed his bulk through the gangway into the cab like a man-mountain, moving with extreme deliberateness. Phil's secret ambition was to give him a stiff crack in the behind with a shaker bar.

The hogger breathed moistly. He glanced at the steam gage. "See that you keep her that way," he rumbled. "I don't want to be set out till Christmas."

"Some guys wouldn't care if you stayed out longer than that," Phil muttered darkly.

"Heh, what's that?" Big Boy asked. "Never mind. Keep your damn mouth shut!" He trundled to his seatbox, raised the cushion, and peered within. "And try not to leave the cab on this run, Moonshine!"

Phil winced. He poised his shaker bar and looked wistfully at the bulging backside.

PASSING footfalls below, with a familiar cadence, diverted him from the tempting target. He slid down the grab-iron to the ground and into the path of a rawboned man of unusual height, and blurted out:

"Listen, Mr. Frome, won't you please let me take the exam along with Kirk and Eldredge? I've got the same rights they have to a shot at the right-hand side of the cab."

The road foreman of engines studied him sharply. Phil did not like the look in those steel-gray eyes.

"You'd better stick to the left side for a while yet," said the official. "Mr. Grayson doesn't go for skittish engineers." Grayson was the superintendent of the Cardigan Division, a man as tough as a scarred old cat from the rimrocks. "You know what I mean—the way you unloaded at the intersection. Watson, for example, would never do that."

Phil glowered. *If you and Big Boy keep bringing up that Moonshine stuff,* he thought bitterly, *I'll be firing drags forever.*

"Better take yourself in hand," Mr. Frome continued, not unkindly. "Watson tells me that you're always looking for trouble and quick to find it. You're like the section hand who made a practice of watching to see that the rest of the crew got their tools off the track when a train was coming, but his shovel was the one that finally got run over. Take time to think about things, McKay."

"You can't always take your time," Phil protested. "If I'd really seen what I thought I saw at the intersection, I didn't move any too fast."

But Mr. Frome didn't get that. "If you'd had the right-hand side of the cab that night," he said bluntly, "what would have happened to your train?"

"I'd have stuck and cleaned the clock in that first second," Phil stated.

"I guess you've got to prove that to Mr. Grayson," the road foreman said, "and Watson's reports don't help you."

Now, the examinations to be set up to engineers were so stiff that many of the older firemen had fallen down or had declined to attempt them. Men with no more rights than Phil were being offered the chance to take them next. Phil had been studying and cramming for months, and felt sure he could pass. But they hadn't invited him to take the tests. The thought rankled.

Prove to Mr. Grayson that he wasn't too tense to handle a road engine, even in an emergency! Fine chance! Phil watched Mr. Frome climb into the cab of the 915 as she backed out to tie onto Ten, an eastbound passenger train. There wasn't any test for that, except to build up a record, if he could. As long as they called him "Moonshine" he'd have the shovel tied to him.

LONG TOM QUILTY, the head brakeman, came and guided the 1612 out of the roundhouse. They clattered through switches and paused at the chutes for a dump of coal. Ten glided through the yard, headed for the open country. As she passed they could see Mr. Frome in the cab, standing beside the engineer, and Big Boy said: "Wonder what old Waters has done that the traveling grunt has to ride with him?"

The 1612 backed into her train. The conductor came forward presently with the orders. After they had read them over together Big Boy stuffed the tissues into his pocket, climbed back into the cab, and adapted his large person carefully to his seat.

The fireman held out his hand for the orders. Big Boy rumbled. He regretted the slight effort to dig them out of his pocket.

"Always scared somebody's gonna overlook something! A regular rule-book railroader!"

Phil eyed them briefly. He didn't have to check with the timetable to find how they worked out. He knew all the items and how they reflected on his train's movements.

Engineer Watson whistled off, and they moved out into the country. The hot sun went down behind them, and they rolled through the long twilight into the dark. Big Boy beat the 1612 up the first hill. Phil had to work and connive with all his skill to keep her hot.

They set out three loads at Repub-

lic and picked up an empty. They took siding at Bolo and were delayed eighteen minutes on a meet with an extra west. At Frogtown they picked up two loads.

It was a stuffy night. Phil's jumper was plastered tight to his hard back. His scoop rang often at the firebox door. The track ahead moved under the beam of the headlight like a ladder as the long freight clanked through the night.

That night, Tom Quilty had elected to lounge on the fireman's seat by the hot boiler rather than ride the tops where it was cooler. He knew Phil would have a time with Watson and the 1612, and he stayed in the cab to give what help he could—to pick up orders on the fly and to keep the coal shoveled down in the tender. Tom was that kind. He was a good man to have along.

Big Boy jounced in his own blubber. He seldom eased a lever. He let the 1612 and the fireman do the work and most of the thinking.

Tom snared an order at Daley. At Lakeland intersection the hogger turned a fat, derisive grin on Phil. At Atlantic they set out more loads. The board was against them, and the conductor came forward with a "31" order. It read: "No. 28, Engine 1612, take siding and meet Extra 2714 West at Prosper."

Again Phil had to ask his engineer for the order. He nearly didn't. The struggle to keep the 1612 going under Big Boy's mishandling had tired him. It was well past midnight; they were getting on toward the end of the division and his energy had sunk to a low ebb. But an insistent sense wouldn't quite let him pass up reading the order. He should know what they faced. Meet Extra 2714 at Prosper. Twenty-eight to take siding. The 2714 would be a hotshot.

THEY rolled on. The semaphore at Prosper showed red when they came in sight of it, but there was a dancing dot of white light on the platform below. That would be the night operator, Eddie Sand, signaling to them with his lantern that he had an order clearing the board. Evidently the dispatcher had changed the meeting point between Twenty-eight and Extra 2714, and they would go through Prosper without stop. The lanky brakeman got down to pick up the order. Big Boy didn't arouse himself even to the extent of checking his train.

Eddie stood close to the track as the 1612 blasted down on him, expertly holding the order hoop aloft in one hand and his lantern raised in the other to silhouette it.

Tom leaned out from the gangway, ran his arm through the hoop, and snatched it from Eddie's hand as they swooped by. He detached the order and cast the hoop back into the night. Then he handed the paper to Big Boy, who glanced down and crumpled it up.

Phil glared at him. The engineer hadn't bothered to accommodate him by offering the order. You only made yourself disliked by trying to do your duty in detail, got your shovel run over while looking out for the other fellow's tools. Phil bent over the firebox, then stood upright.

Extracting the wrinkled tissue from Big Boy's listless fingers, he unfolded it. There was, he saw at once, a fault here, something wrong with the order. His captious eye picked it out in the dim glow: the absence of three words, "instead of Prosper." That seemed to be trivial, but Phil knew instinctively that any flaw in a train order could be dangerous.

Little unheeded items grow ominous when you are shuttling fast traffic on a single track. The dispatcher hadn't put out a protecting order to Eddie Sand at Prosper when he made that meeting point between Twenty-eight and the 2714, because he'd been in a tearing hurry at the time. Twenty-eight had to stop at Atlantic anyhow, so the dispatcher gave them a "31" there.

Meanwhile, he had started another freight westward, Extra 2728, behind the 2714, and then had aroused Eddie and issued an order for Twenty-

IT'S SUPER, SUPER... I'LL AGREE!
AND THANKS FOR ASKING BUT, YOU SEE...
SMELLS GRAND! PACKS RIGHT! SMOKES SWEET! CAN'T BITE!
A PIPE SMOKING MAN ALWAYS WINS WITH ME!
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eight, fixing the meeting point at McCormick for her and this new train. That was the order Phil held under his startled eyes. It did not change the meeting point with the 2714, which was still at Prosper, through which they were proceeding at an unchecked speed.

Eddie, unaware that Twenty-eight already had a meet at his station, had signaled them through.

All that Big Boy gathered from his quick glance at the order was the name of the new meeting place, McCormick. The similarity of the two engine numbers escaped him.

But Phil had instantly caught the absence of three words. If the order had changed the meeting place it would have read, ". . . at McCormick *instead of Prosper.*"

His nerves ran in cold trickles when he got the meaning. As he saw it, they still had a meet here at Prosper with the 2714. He tried to yell at Big Boy to stop, but the bitterness of his past hasty experience choked his voice. Caution checked him. He wasn't going to be stampeded into another ridiculous error.

He might be wrong about their now having meet orders with two extras. Maybe his memory had slipped and it was only the 2728 they were to met, and the dispatcher had merely neglected to add the "instead of Prosper" to the order. The taunt of "Moonshine" still rankled.

But confidence in his memory returned to plague him. Those two engine numbers had registered in his mind; 2714 and 2728. Phil McKay glanced back from the gangway along the train rolling through the dark. The caboose was already well past the station where Eddie Sand had handed up the order to the rear end. The caboose hadn't yet noted any error, or somebody there would have pulled the air.

Maybe, Phil thought, *my imagination has built another illusion. Take it slow and thoughtful.*

But you don't deliberate in the close ones. It wasn't possible to debate this situation. It was too imminent. If they were to meet the hotshot here, they'd have to stop at once and back into the clear, or the 2714 would be smashing into them.

HE COULDN'T wait for Big Boy to dig the order out of the wad of them in his pocket to make sure there were two freights running against them. Big Boy would argue about that, and if Phil had the picture right, the hotshot was storming through those hills ahead, not far away, expecting a clear track at Prosper.

Delayed action would be the same as none at all. No matter who said so, you couldn't linger over a decision when a head-end smash impended in the cuts just ahead.

"Stop her!" Phil yelled. He couldn't hold back the warning longer. "Give her the big hole! We've still got a meet here with the 2714."

The engineer jounced placidly on his seat like a mold of jelly. He stared at Phil without concern. The 1612 rambled on. Big Boy's fat lips rolled up in a grin.

"Don't jump yet, Moonshine!" he called. "That order changed our meet from Prosper to McCormick. Don't unload! We ain't got time to wait for you to catch up with us again."

The cab of a locomotive pulling a long string of cars isn't a tranquil place for quiet reflections. The engine dips and sways and slews; there is a steady drum of exhaust and the clank and rumble of gear. It is easy for you to become confused.

Phil peered out over the hills through the front window. The first cut wasn't far ahead. He caught a flicker of light along the ridges, but it faded as he glanced. That might be another will-o-the-wisp, or some light from the firebox still in his eyes. But it could be the 2714 coming close at hand!

He crowded the throttle shut against the engineer's restraining hand, and reached past Big Boy and flapped the brake valve handle to emergency.

Compressed air howled. The thunder of brake shoes snatching at all those rolling wheels ran down the long train like an earthquake. The 1612 plunged and rolled and checked.

Engineer Watson bent forward on the retarded momentum like a captive balloon. His crooked elbow cracked on the window frame. He yelled angrily and clutched his arm. Long Tom Quilty slid to the deck. He didn't say anything, just watched the fireman.

Phil thrust the order at the brakeman, sprawled on his seat, and searched the darkness ahead. A dim glow out there flickered and died—a headlight turning on the curves.

Twenty-eight grunted to a stand. Big Boy clamored and swore.

Phil scrutinized the deceptive glow. But he couldn't get its location. Then a pink radiance reached into the sky above the hills. It caught some familiar contour, and Phil knew that the 2714 was storming toward them. Her fireman had opened his firebox door and sent that pink wedge into the sky. Phil gaged her position and could make a guess at her speed.

He glanced back along his stand-

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ing train. The rear end was clear of the Prosper yard by more than half a mile. The 1612, the head end, was close into the hills.

Big Boy couldn't get the air pumped up and the brakes released, and that long train backing into the siding before the 2714 would blast out of the cuts and tear into them.

Tom Quilty was limer and quick on his feet, but not fast enough to run forward a sufficient distance to flag her down and prevent her from ploughing into the 1612. The hotshot, without excessive tonnage, would be turning them fast.

Phil was getting the picture in instant flashes without taking time to check for accuracy. He dropped to the deck and pushed Tom Quilty toward the gangway.

"Get down there and uncouple the hog!" he snapped. "Fast! Then come back here in the cab."

Tom didn't hesitate. He realized you had to be quick in the close ones. But Big Boy stared in a strangling fury, not having caught on yet to the peril they faced. To him it seemed that the young fireman was panicky over moonlight again.

What Phil did next could well cost him his job. Taking the engineer by one arm and bracing himself, he pulled Big Boy from his seat—an act equivalent in railroading to mutiny at sea. Big Boy's plump legs scrambled for a foothold on the steel deck. Phil slid into his seat.

Big Boy gurgled: "You gone crazy? You know what you'll get for this."

He still had no idea what was wrong but was already preparing an alibi. Phil yelled at him.

"The 2714 is just over the hill, coming to meet us at Prosper!"

He released the brakes and widened the throttle as Tom signaled from the rear of the tender. The 1612 snorted briskly.

"Well, then, where are you goin' now?" Big Boy shouted.

He was angry and confused.

Tom Quilty rippled up the ladder. The 1612 took hold and bellowed under the urge of Phil's hand.

IF YOU figured this situation a month you would always get the same answer. Phil McKay believed he had it in one instant. If they tried to back up and at the same time sent Tom out to flag, the 2714 would come blasting out of the cut before the lean brakeman could get inside of it to stop him.

The safest thing for Phil would be to stand aside and let them do just that. He would be in the clear. It wasn't his responsibility. But as Mr. Frome had said, you looked out for the other fellows' tools at the risk of getting your own run over.

"Tom," he called, "the hotshot is too close for you to flag her before she hits us."

"Then why are you runnin' right into her face?" the hogger bellowed.

"Listen, Tom." Phil raised his voice above the engine's roar. "Right at the other end of this short cut there's a siding into the paint factory. We'll run up there, and you head me into the clear. That will get us far enough up the line so we can stop her before she hits our head end. Want to try it?"

His thoughts were streaking, but his voice sounded calm and assured.

"Sure," Tom called back. "I'll get out on the pilot and be ready to run for the switch when we get there."

"It may be close," Phil said. "Don't forget to jump and get out of the way if you have to."

Tom crowded through the front window of the cab. He went forward over the running board along the boiler and dropped to the pilot.

Big Boy gathered up his sagging mouth. "You gonna try to make the switch before the hotshot gets there?"

Phil nodded from halfway out the cab window. The drivers ground into the rails and the tempo of the exhaust grew into a thundering roll. The 1612 had power. She picked up her speed with a surging rush.

"What if the hotshot gets there first?" the hogger shouted. But Phil McKay was not panicked and his answer was calm.

"I don't think she will."

The climax was only seconds

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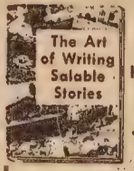

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away. Much as Engineer Watson disliked to hustle, he decided to move quickly now. He waddled to the gangway and backed down the ladder in a hurry. At the bottom he let go with one hand and stepped off. The train was going so fast that he lost his footing and rolled through the tall weeds into a muddy pool.

The 1612 grunted on the slight curve as they swung into the short cut. The spot of green light that marked the switch stand goggled at Phil from the other end. The main line curved away at the end of the headlight's beam into another slash in the ridges. The 1612 responded to the tug of his fingers.

BY NOW the headlight of No. 2714 was spraying patches of light along the near ridge, and the glow from her firebox again slid into the sky. Phil knew he had to figure his moves in inches.

The green switchlight dwindled as it bobbed near. Phil let off the whistle in short, screaming blasts. The cries slammed over the hills, reaching for the engineer of the 2714. He might hear them, or think he did, and that would at least make him more alert.

Phil shut the throttle. He dipped into the auxiliary tank for an accurate seven pounds of air. Just seven pounds exactly his fingers on the valve recognized as the brakes took hold of the drivers.

The 1612 checked smoothly as the blast died from her stack. Her brasses pounded in the comparative quiet. Bluish stars swung along the horizon. Night smells drifted in from the farmlands.

Tom Quilty's lantern came out to the end of the pilot beam. That limber man was coiled on the foot-iron like a wound-up spring. The switchlight bobbed with the swaying engine. It seemed to fly at him, too close, as if he would overrun it.

Phil checked her sharply. Tom's lantern shot forward from the pilot. The brakeman lit sprinting. He would have to find his footing by the feel. He couldn't see the ground under him. If he stumbled, if he were thrown, he couldn't open the switch in time. It would be that close, that a jog would stretch time too far.

Then the headlight of the 2714 flared on Phil's eyes as the hotshot lashed out of the cut ahead. Tom was swinging his lantern in quick arcs as he streaked toward the switchstand. Phil let off the whistle in a half-dozen short calls. The 1612 chuckled as he released her brakes and let her drift toward the switchpoints.

Phil's hand dropped from the whistle lever to the throttle. His nerves tried to tighten as he listened for a signal from the hotshot. The yellow disk of her headlight swung at him like a racing moon. If they hit, it would be a grand smash and a great pile of wreckage.

Tom Quilty's lantern paused at the switchstand. A grim roar climbed up over the hills, reaching for the stars, as the engineer of the 2714 set all the brakes on that storming line of cars.

In the crawling light from the headlights, Phil searched out the rails of the siding where they came down and laced with the main line. He believed he could see the switchpoints in the reflection under the beams, but perhaps he merely thought he could because he was certain where they were.

He knew for sure they had not opened when they moved under the 1612's pilot, for the switchlight still showed green.

Maybe Tom had missed his switchkey's first stab at the lock. But somehow those points would have to open up while they traveled from pilot-point to the front trucks. The hotshot was still coming at breakneck speed.

Phil pulled out the throttle to the fraction his fingers felt would lift her into a burst of speed without faltering. His nerves did not flinch. They held steady while the grinding roar of the hotshot's set brakes, added to the glare of her headlight in his eyes, tried to tighten them. No. 1612 surged forward power-

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fully, with her tall stack barking.

He felt the slight lurch as she took the curve of the siding. The switchlight's beam had turned red now and it swam toward him as the engine made her try to avoid the hotshot. The 2714's headlight streamed into his cab.

Tom Quilty was coiled at the switchstand, ready to swing the points back if the tender cleared. He was calm-eyed and watchful in the shimmering light. If the 1612 didn't clear, Tom would be included in the resultant wreckage. He ought to be using his long legs to cover distance.

Phil gave a final strong pull at the throttle. She would have to take it all now. The 1612 roared and lunged.

A blast of air slammed through the cab as the hotshot howled by. The gust spanked Phil as he leaned out of the window, and it nearly projected him from his seat.

The hotshot streamed down the main line, bucking and growling in the hard grip of brake shoes. A faint smile of intense relief flickered across Phil's lips.

HOURS LATER, the young fireman came out of the roundhouse in the hot sun and slouched across the terminal yard to his room. All he wanted now was to sleep. Sunlight edged the drawn blinds as he crawled into bed. His back hurt. He tore the bed covers apart, tossing.

Footfalls in the hall had a familiar cadence. Phil's stomach chilled as someone knocked on the door. With a groan he got out of bed slowly and slipped into a bath robe. There, silhouetted against the light, stood Mr. Frome, the road foreman of engines.

"Sorry to wake you up, McKay," he said, "but Mr. Grayson is in a hurry for your report on what happened last night. I've got to wire it to him."

The fireman rubbed his aching back. "You must have heard Watson's version by this time," he said dismally. "I couldn't change that."

"No, I guess not," Mr. Frome agreed. "I've got Eddie Sand's, too, and Tom Quilty's. What I want you to do is verify Tom's report. His facts don't agree with Watson's at all, and Tom's a mighty reliable man."

"Yes, sir, he is," Phil enthused, "and fast on his feet. Why, if the brass collars don't recognize the chances he took last night, and the fine way—"

"Now, McKay," the foreman soothed, "there you go, getting all excited. The division superintendent is really on your side. He thinks I misjudged you somewhat. Asks if I didn't confuse quick judgment with skittish nerves." A slight pause. "I reckon maybe I did."

"Oh!" Phil brightened.

"Now, if you'll explain about last night I'll send the Old Man a wire telling him how wrong I was. He wants you to go up for the engineer's examination next week and to see him just as soon as you can get back."

Phil walked across the room and raised the blinds. Golden sunlight streamed in. "What about 'Moonshine'?"

His lips curled in a smile.

"Oh, *that!*" Mr. Frome's steel-gray eyes twinkled. "I don't believe you'll hear it any more. Last night, you know, when Watson unloaded into a frog pond he came out all muddy and wet and mad enough to kill. The men of the Cardigan Division are calling him 'Mudhop.'"

Phil's grin widened. "Big Boy Mudhop!"

His back didn't hurt any more. He listened gaily to the clank of couplers and the rumble of a switch engine batting freight cars around the yard. ●

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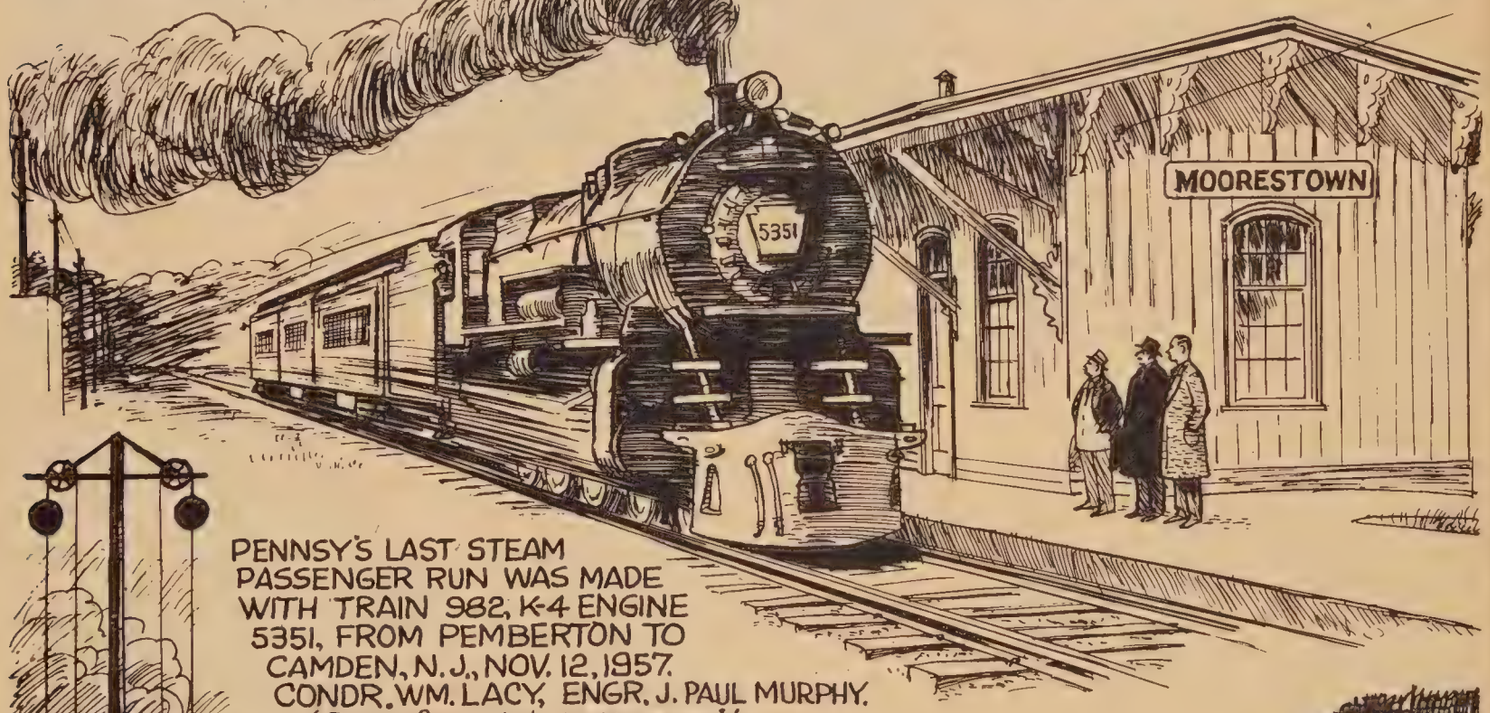
(In next issue: another great Bedwell story, "Restless Feet")

Along the Iron Pike

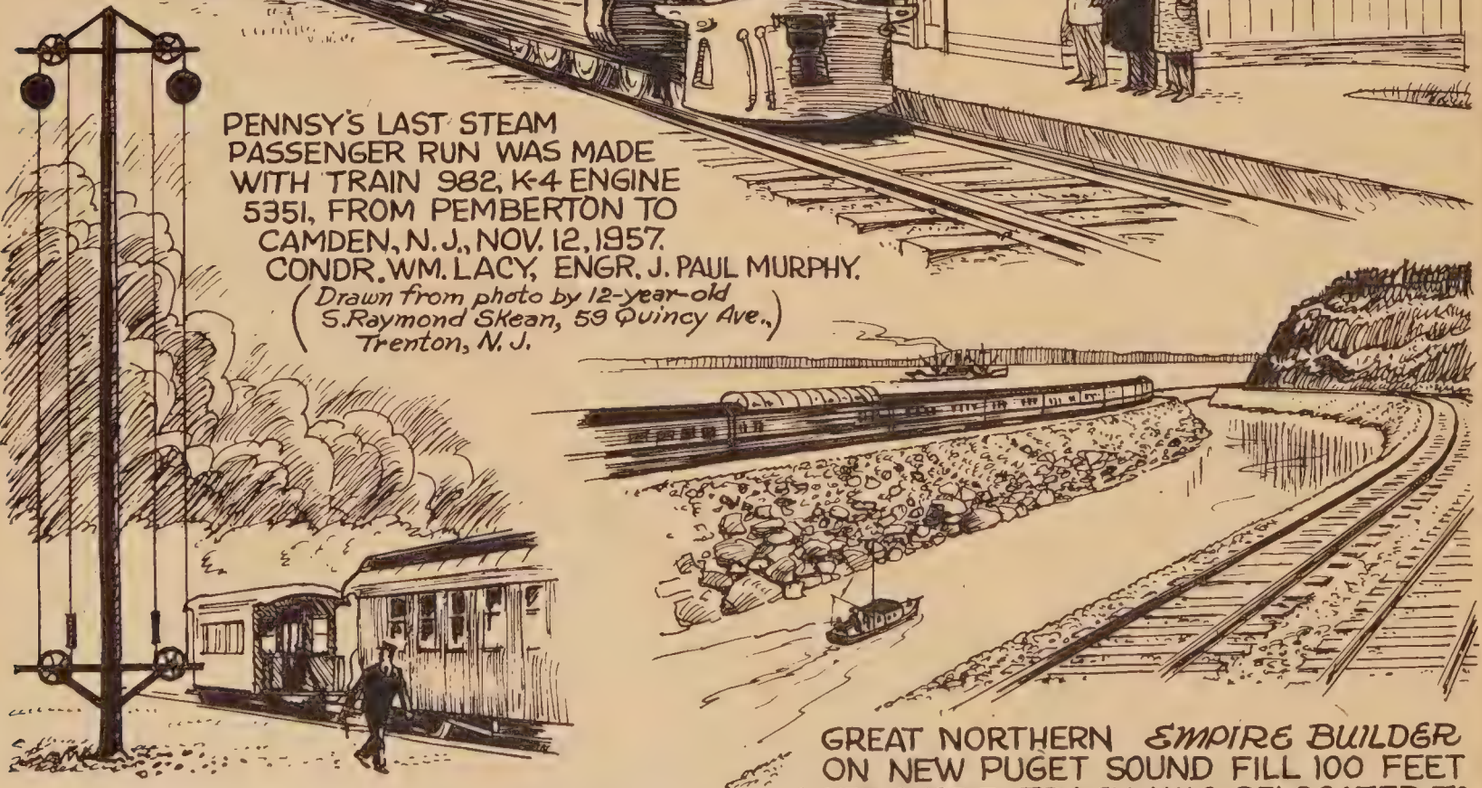
by Joe Easley

EIGHT DIESEL UNITS WHEEL SANTA FE FREIGHT WEST BOUND THROUGH ARIZONA. (MAY, 1956.)
(Drawn from copyrighted photo by B.A. Butt, Tregenna Hill, St. Ives, Cornwall, England.)

CAN USED 100 YEARS AGO IN SALE OF DRINKING WATER TO TRAIN PASSENGERS. THE CONDUCTOR (IN THIS CASE W.P. HORTON) HELD THE WATER CONCESSION BUT A NEWSBOY DID THE WORK.
(from B&O Museum, Baltimore, Md.)



PENNSY'S LAST STEAM PASSENGER RUN WAS MADE WITH TRAIN 982, K-4 ENGINE 5351, FROM PEMBERTON TO CAMDEN, N.J., NOV. 12, 1957. CONDR. WM. LACY, ENGR. J. PAUL MURPHY.
(Drawn from photo by 12-year-old S. Raymond Skean, 59 Quincy Ave., Trenton, N.J.



OLD HIGHBALL SIGNAL ON TWO-FOOT-GAGE EDAVILLE RR. AT SOUTH CARVER, MASS.
(Drawn from photo by John Hilton, Kensington, Md.)

GREAT NORTHERN *EMPIRE BUILDER* ON NEW PUGET SOUND FILL 100 FEET OFF-SHORE. TRACK WAS RELOCATED TO BYPASS LANDSLIDE-PLAGUED SECTION OF OLD MAIN LINE SHOWN AT RIGHT.

THE ATLANTIC STORY

(Continued from page 37)

inclusive that system put a total of 166 Atlantics into operation. One they built in their own shops at Topeka; the others came from Baldwin. All were four-cylinder compounds, but most of them were eventually converted to standard two-cylinder engines.

The Santa Fe's "Bull Mooses," built in 1910, had an extended front end equipped with a smokebox superheater and reheater plus a forward dome to which outside piping was connected. This unorthodox setup gave them a rather humpbacked appearance, hence the term Bull Moose. No. 1948, probably the omega of her type, was scrapped in September, 1948. The following month No. 1468, the Santa Fe's last 4-4-2 in West Coast service, ended her long and useful career.

Atlantics came to the Southern Pacific in 1902 and lasted for 48 years. One of them, No. 3041, figured in a train robbery near Benicia, Calif., in 1910. Eight 4-4-2's of 1907 vintage were rebuilt to 0-8-0 switchers. Four others were modernized in 1927-'28. One remained on the roster until early in 1952.

Were space available, I could tell quite a story of Atlantic types on other roads: the Baltimore & Ohio, the Lehigh Valley's Camelbacks that dated back to 1896, and the Erie's assortment which, in my book, were the homeliest of them all. One Atlantic was involved in a freak wreck. Around the turn of the century, on the Philadelphia, Baltimore & Washington (now Pennsy), she roared through an open drawbridge and nose-dived on to the top of a passing ship, which she sent to the bottom of the drink. Later, both engine and ship were patched up and put back into transportation service.

Today, as spic and span as on that morning in 1904 when Schenectady delivered her to the SP, old 3025 stands in Travel Town, Los Angeles, dreaming of the past. Beautifully restored in the SP's Los Angeles shops, she was donated to the city-owned museum six years ago.

The British *Henry Oakley,* to which I have referred, is kept at the York Museum in England. Maintained in top condition, she could be used in service at any time.

Also among the relatively few 4-4-2's preserved for posterity are Chicago & Eastern Illinois No. 222; Jersey Central Camelback No. 592 at the B&O Museum, Baltimore, Md.; a Michigan Central specimen (later DT&I) at the Ford Museum, Greenfield Village, Dearborn, Mich., and two Pennsy engines at Northumberland, Pa.: the second 7002 and the *Lindbergh Special's* 460. The C&NW 395 is at the Museum of Transport in Kirkwood (St. Louis), Missouri. We hope readers will add to this list.

Except for the 1935-dated Milwaukee streamliners, the final standard 4-4-2 built in America, as far as I can find out, was No. 9, the trim, low-wheeled beauty outshopped by Baldwin in 1916 for the Interstate Railroad, an 85-mile coal line in Virginia. Who has a picture of her?

Well, the story is done; the book is closed. Count me as one of those who cherish memories of a golden, irrecoverable age—the era in which 4-4-2's blazed a glittering trail across the railroad scene. ●

Down Aroun' the Deepo

Down aroun' the deepo when the keers come in,
What a hustle an' a bustle an' a clatter an' a din!
Engine kinder puffin' an' a-blowin' off her steam;
Drayman sorter fussin' an' a cussin' at his team;
Boys a-sellin' papers an' a-shoutin' out the news;
'Nother one a-wantin' fer to blacken up your shoes;
Ain't like any other place 'at I have ever bin,
Down aroun' the deepo when the keers come in.

—Anonymous

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BOOKS of the RAILS

BY P. C. GRAVES

THE GRAND TRUNK RAILWAY OF CANADA, by A. W. Currie, University of Toronto Press, Toronto, Canada, 556 pages, $8.50.

No. 734 (2-6-0) on the Grand Trunk.
Merton J. Stearns, Livermore Falls, Me.

When the Grand Trunk was projected in 1852 it was to be the longest road in the world. Later it was characterized as the world's worst commercial failure, but as a pioneer undertaking it gave Canadians their earliest experience with big business. For nearly 75 years it was the most important economic institution in the daily lives of the people in Southern Ontario and Quebec.

In this rather long and technical book, Professor Currie demonstrates the optimism which launched this vast railway system and the lack of foresight which hampered its development. He has based his history on extensive research in Canada and Great Britain. Unfortunately, it is not illustrated.

OVERLAND SLIM, THE MAVERICK, by Jason Jackson, Greenwich Book Publishers, 489 Fifth Ave., New York, 99 pages, $2.50.

This is the true story of a hobo. Jason Jackson was an orphan with a wanderlust, and the story he has to tell is devoted to his travels from coast to coast on whatever roads he could steal rides. Along the way he held jobs as farmhand, construction worker and lumberjack, or whatever else took his fancy. The hobo's mode of travel was hazardous, and Jackson's was crowded with color and adventure. A recent writer has defined the American hobo as "the man who builds palaces and lives in shacks. He builds Pullmans and rides the rods. He reaps the harvest and stands in the breadline." Which pretty much sums up *Overland Slim, the Maverick.*

BRANCH LINES, by O. S. Nock, The British Book Centre, Inc., 122 East 55th St., New York, 184 pages, $6.25.

This volume is not intended as a concise geographical survey of British branch lines, but an overall sketch from personal experiences on the Furness, the London & Northwestern, the Great Western, the London & Northwestern, the Midland and others.

Mr. Nock, an engineer with the Westinghouse Brake & Signal Co., is known for his professional association with railroads and as the author of a series of books on English railways. The unique illustrations and specially-drawn plans of some of the more eccentric lines in his latest work are of particular interest.

Branch Lines will be enjoyed by every railfan who has a yen for overseas railways.

THEN CAME THE RAILROADS, by Ira G. Clark, University of Oklahoma Press, Norman, Okla., 336 pages, $5.75.

The author of this fine book comes from a railroad family, having "virtually grown up in a railroad station." His subject is the penetration of steel trails into the Southwest, America's last frontier.

The story of these roads and the people who built them is filled with accounts of courage and daring. The Indians, the land, and even the elements were hostile to the builders who laid thousands of miles of shining rail from Missouri to the Gulf and from the Mississippi to the Rockies.

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Southern Pacific Lines

Roster compiled by Sy Reich

SOUTHERN PACIFIC RR. — STEAM LOCOMOTIVES

0-6-0 (Switcher) Type

Class	Road Nos.	TE	Weight	Dri.	BP	Cyls.	Builder	Date	Notes
S-10	1211, 1214, 1221, 1299	29,720	154,600	51	190	19x26	Baldwin	1913,'18	(47)
S-11	1226	29,720	147,900	51	190	19x26	Lima	1915	
S-12	1250, 1258, 1259, 1268, 1272, 1274, 1282, 1284	31,020	153,000	57	200	20x26	SP	1919,'21,'23	(48)
S-14	1291	31,020	155,000	57	200	20x26	Lima	1924	
188	220	27,380	188,100	51	175	19x26	Baldwin	1907	(49)
191	572	27,380	190,680	51	175	19x26	Baldwin	1911	(50)
193	966	32,780	193,000	51	180	20½x26	Alco	1907	(51)

0-8-0 (Switcher) Type

SE-3	4512	55,920	232,380	57	200	25x30	T&NO	1930	
SE-4	4503, 4507	52,990	229,000	57	210	23¾x30	SP	1930-'31	

2-6-0 (Mogul) Type

M-6	1729, 1744, 1749, 1760, 1765, 1782	33,320	174,000	63	200	21x28	Baldwin	1901-'02	
M-8	1775, 1777	33,320	184,700	63	200	21x28	Baldwin	1902	
M-9	1805	34,990	177,500	63	210	21x28	Alco	1908	

2-8-0 (Consolidation) Type

C-8	2728, 2730, 2746	45,470	216,700	57	210	22x30	Alco	1904	
C-9	2513, 2558, 2582, 2758, 2765, 2784, 2786, 2818, 2827	45,470	217,800	57	210	22x30	Baldwin	1905-'08	(52)
C-10	2831, 2833, 2836, 2837, 2850	45,470	217,800	57	210	22x30	Baldwin	1911,'18	(53)
C-11	2861-2864	49,640	243,000	54	190	25x30	Baldwin	1920-'21	(56)
C-12	2865-2868	52,254	243,775	54	200	25x30	Baldwin	1923	(56)
C-18	3400, 3406	(54)	191,500	57	200	(54)	Baldwin	1902-'03	
C-19	3423	42,280	198,500	57	200	22½x28	Baldwin	1904	

2-10-2 (Santa Fe) Type

F-1	3634, 3643	65,300	(55)	63	200	27½x32	Baldwin	1919	
F-3	3660, 3663, 3666	75,150	390,200	63	200	29½x32	Baldwin	1921	
F-4	3670, 3673, 3690, 3706, 3711	75,150	390,400	63	200	29½x32	Baldwin	1922	

4-6-0 (Ten-Wheeler) Type

T-1	2248	25,260	142,350	63	180	20x26	Cooke	1896	
T-31	2355	38,400	208,000	63	210	22x28	Baldwin	1912	
T-32	2381	38,320	218,500	69	210	23x28	SP	1920	
71	9	17,800	87,150	44	180	16x20	Baldwin	1909	(29)

4-6-2 (Pacific) Type

P-7	2476, 2477	40,750	276,000	73	200	25x28	Lima	1917	
P-8	2475	45,850	307,300	73	210	25x30	Baldwin	1921	
P-10	2484	45,850	307,300	73	210	25x30	Baldwin	1924	

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Mason Shoe Mfg. Co., Chippewa Falls, Wis.

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EMD four-unit locomotive pulls freight between tall snowdrifts on SP main line through the high Sierra Nevadas.
Southern Pacific Lines

NOTES, ABBREVIATIONS

ROSTER accurate as of Feb. 20, 1958. Units renumbered, rebuilt, or transferred are listed twice—under original and present road numbers.

ABBREVIATIONS: Whl. Argt.—wheel arrangement; TE—tractive effort, in pounds; Weight given in pounds; m—multiple-unit operation; db—equipped with dynamic brakes; s—equipped with steam heat boiler; GM-EMD—Electro-Motive Div. of General Motors Corp.; B-W—Baldwin-Westinghouse; BLHW—Baldwin - Lima - Hamilton - Westinghouse; Alco-GE—American Locomotive Co.—General Electric; Alco—American Locomotive Co.; Alco Pr.—Alco Products; GE—General Electric Co.; FM—Fairbanks Morse; Daven.—Davenport Locomotive Works; Baldwin—Baldwin Locomotive Works; Lima—Lima Locomotive Works; SP—Southern Pacific Shops; SSW—St. Louis Southwestern Shops.

NUMBERED NOTES: (1) Renumbered 6100-6139 consecutively. 6100-6137 transferred to T&NO and renumbered 6100-6137: 300-321,326-327,324-325,330-335, 328-329,336-337,322-323. Rebuilt: 300-312,314,316,320, 322-325,330-337 rebuilt to F-9A in 1954-'56 and renumbered 600-628 promiscuously.

(2) TE 56,856-59,355, Wt. 227,350-327,420 promiscuously.

(3) Renumbered 8000-8039: 6100B&C-6102B&C,6104 B&C,6103B&C,6105B&C-6119B&C. The following were transferred to T&NO and renumbered from 8000-8037, to T&NO 500-521,526,527,524-525,530-535,528-529, 536,-537,522-523. The following were retransferred to SP and renumbered in their original 8000 series: 8022-8039. Then the following were rebuilt to F-9B

(Concluded on page 69)

4-8-2 (Mountain) Type

Mt-1	4312	57,510	368,000	73	210	28x30	Alco	1924	
Mt-3	4342	57,510	368,000	73	210	28x30	Alco	1926	
Mt-4	4358,4360	57,510	368,000	73	210	28x30	Alco	1927-'28	
Mt-5	4373	57,510	368,000	73	210	28x30	Alco	1930	

4-8-4 (Northern) Type

GS-1	4402	62,200	442,300	73	250	27x30	Baldwin	1930	
GS-2	4415	62,200	448,400	73	250	27x30	Lima	1937	
GS-3	4420,4421, 4428	62,800	460,000	80	280	26x32	Lima	1937	
GS-4	4430,4431, 4437,4439, 4441,4443-4446,4450,4451,4455	64,800	475,000	80	300	25½x32	Lima	1941-'42	
GS-5	4458	64,800	483,200	80	300	25½x32	Lima	1942	
GS-6	4460,4461, 4464,4465, 4469	64,600	468,400	73	260	27x30	Lima	1943	
GS-8	4488	61,564	438,500	70	250	26x30	SSW	1937	(57)

4-8-8-2 (Mallet Articulated) Type

AC-7	4172	124,300	639,800	63	250	2(24x32)	Baldwin	1937	
AC-8	4186	124,300	657,900	63	250	2(24x32)	Baldwin	1939	
AC-10	4209,4212, 4218,4224, 4228,4233,4240-4243	124,300	657,900	63	250	2(24x32)	Baldwin	1942	
AC-11	4252,4259, 4261,4262, 4274	124,300	657,900	63	250	2(24x32)	Baldwin	1943	
AC-12	4276,4280, 4281,4287, 4289,4292	124,300	657,900	63	250	2(24x32)	Baldwin	1943-'44	

SOUTHERN PACIFIC RR. — DIESEL LOCOMOTIVES

Class	Road Nos.	HP	Builder	Bldr's. Model	Whl. Arrgt.	TE	Weight	Date	Notes
DF-1	6100A&D-6119A&D	1500	GM-EMD	F-3A	B-B	58,650	234,600	1947-'48	(1),m,db
DF-1	6138-6139	1500	GM-EMD	F-3A	B-B	58,650	234,600	1948	(1),m,db
DF-1	6100B&C-6119B&D	1500	GM-EMD	F-3B	B-B	(2)	(2)	1947-'48	(3),m,db
DF-1	8022-8023 8026-8035 8038-8039	1500	GM-EMD	F-3B	B-B	(2)	(2)	1948	(3),m,db
DF-2	6120A&D-6125A&D 6126A&F-6139A&F	1500	GM-EMD	F-3A	B-B	(4)	(4)	1948-'49	(5),m,db
DF-2	6140-6179	1500	GM-EMD	F-3A	B-B	(4)	(4)	1948-'49	(5),m,db
DF-2	6120B&C-6139B&C	1500	GM-EMD	F-3B	B-B	(6)	(6)	1948-'49	(7),m,db
DF-2	8040-8079	1500	GM-EMD	F-3B	B-B	(6)	(6)	1948-'49	(7),m,db
DF-3	6140A&F-6142A&F	1500	GM-EMD	F-7A	B-B	59,175	236,700	1949	(8),m,db
DF-3	6180-6185	1500	GM-EMD	F-7A	B-B	59,175	236,700	1949	(8),m,db
DF-3	6140B&C-6142B&C	1500	GM-EMD	F-7B	B-B	57,750	231,000	1949	(9),m,db
DF-3	8080-8085	1500	GM-EMD	F-7B	B-B	57,750	231,000	1949	(9),m,db
DF-4	6143A&F-6169A&F	1500	GM-EMD	F-7A	B-B	59,325	237,300	1949	(10),m,db
DF-4	6187,6190-6195,6197-6200,6202, 6203,6205-6239	1500	GM-EMD	F-7A	B-B	59,325	237,300	1949	(10),m,db
DF-4	6143B&C-6169B&C	1500	GM-EMD	F-7B	B-B	61,850	247,400	1949	(11),m,db,s
DF-4	8086,8087 8089-8096 8099,8101-8104,8106-8112,8114-8120,8122-8139	1500	GM-EMD	F-7B	B-B	61,850	247,400	1949	(11),m,db,s
DF-5	6240-6295	1500	GM-EMD	F-7A	B-B	(12)	(12)	1949-'50	m,db
DF-5	8140-8195	1500	GM-EMD	F-7B	B-B	(14)	(14)	1949-'50	m,db
DF-6	6296-6339	1500	GM-EMD	F-7A	B-B	(15)	(15)	1950	m,db
DF-6	8196-8239	1500	GM-EMD	F-7B	B-B	57,600	230,400	1950	(16),m,db
DF-7	6340-6377 6424-6439	1500	GM-EMD	F-7A	B-B	58,290	233,150	1951	(17),m,db
DF-7	8240-8267 8286-8289	1500	GM-EMD	F-7B	B-B	57,560	230,250	1951	(18),m,db
DF-8	6378-6405	1500	GM-EMD	F-7A	B-B	60,025	240,100	1952	m,db
DF-9	6406-6423	1500	GM-EMD	F-7A	B-B	62,115	248,450	1952	m,db
DF-9	8268-8285	1500	GM-EMD	F-7B	B-B	61,565	246,250	1952	m,db
DF-11	6440-6445	1500	GM-EMD	F-7A	B-B	62,270	249,075	1953	m,db
DF-11	8290-8303	1500	GM-EMD	F-7B	B-B	63,335	253,350	1953	m,db,s
DF-12	6446-6461	1500	GM-EMD	FP-7	B-B	65,280	261,120	1953	m,db,s
DF-100	5200-5202	1500	B-W	DRS 6-4-1500	A1A-A1A	45,350	262,800	1948	m,(19)
DF-101	5203-5212	1500	B-W	DRS 6-6-1500	C-C	82,250	329,000	1949	(19)
DF-103	5213-5217	1500	B-W	DRS 6-6-1500	C-C	81,950	327,800	1950	db
DF-104	5218-5226	1500	B-W	DRS 6-6-1500	C-C	81,950	327,800	1950	(19),m,db
DF-105	5500	1500	B-W	DRS 6-6-1500	C-C	81,575	326,300	1950	m,db,(20)
DF-105	4900	1500	B-W	DRS 6-6-1500	C-C	81,575	326,300	1950	m,db,(20)
DF-106	5228-5239	1600	BLHW	AS-616	C-C	80,830	323,310	1950	db,(21)
DF-107	5240-5248	1600	BLHW	AS-616	C-C	80,790	323,150	1951	db,(22)
DF-108	5249	1600	BLHW	AS-616	C-C	80,790	323,150	1951	m,db
DF-109	5250-5252	1600	BLHW	AS-616	C-C	94,285	377,150	1951	m,db
DF-110	5501-5502	1600	BLHW	AS-616	C-C	80,940	323,750	1951	m,db,(20)
DF-110	4901-4902	1600	BLHW	AS-616	C-C	80,940	323,750	1951	m,db,(20)
DF-111	5503-5505	1600	BLHW	AS-616	C-C	93,675	374,700	1951	m,db,(20)
DF-111	4903-4905	1600	BLHW	AS-616	C-C	93,675	374,700	1951	m,db,(20)
DF-112	5253-5278	1600	BLHW	AS-616	C-C	82,530	330,130	1952	db,(23)
DF-114	5279-5293	1500	GM-EMD	SD-7	C-C	82,475	329,900	1952-'53	m,db,(24)
DF-115	5294-5307	1600	Alco-GE	RSD-5	C-C	81,775	327,100	1953	m,db
DF-116	5308	1500	GM-EMD	SD-7	C-C	78,725	314,900	1952	m,db,s

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DF-117	5309-5315	1500	GM-EMD	SD-7	C-C	82,170	328,680	1953	m,db
DF-118	5316-5335	1500	GM-EMD	SD-7	C-C	82,475	329,900	1953	m,db,s,(25)
DF-119	5336-5339	1600	Alco-GE	RSD-5	C-C	81,960	326,750	1953	m,db
DF-120	5340-5371	1750	GM-EMD	SD-9	C-C	82,085	328,340	1954	m,db,s
DF-121	5372-5386	1750	GM-EMD	SD-9	C-C	89,965	359,870	1955	m,db,s
DF-122	5387-5444	1750	GM-EMD	SD-9	C-C	89,385	357,550	1955	m,db
DF-123	5445-5448	1600	Alco	RSD-5	C-C	81,250	325,000	1955	m,db
DF-124	5449-5463	1750	GM-EMD	SD-9	C-C	89,655	358,620	1956	m,db,s
DF-125	5464-5493	1750	GM-EMD	SD-9	C-C	89,718	358,870	1956	m,db
DF-126	5494-5507	1600	Alco	RSD-5	C-C	81,505	326,030	1955-'56	m,db
DF-200	5100-5109	660	GE	70 ton	B-B	34,810	139,250	1949	m,(26)
DF-201	5110-5113	660	GE	70 ton	B-B	34,480	137,950	1950	
DF-202	5114	660	GE	70 ton	B-B	34,795	139,180	1950	m
DF-203	5115	660	GE	70 ton	B-B	34,715	138,860	1951	
DF-204	5116-5118	660	GE	70 ton	B-B	34,375	137,500	1951	
DF-205	5119	660	GE	70 ton	B-B	34,920	139,680	1955	m
DF-206	5120	660	GE	70 ton	B-B	35,505	142,020	1955	m
DF-300	4600-4603	2(800)	GM-EMD	TR-6	2 x (B-B)	51,715	206,870	1950,'51	m,(27)
DF-301	4700-4703	2(800)	GM-EMD	TR-6	2 x (B-B)	51,715	206,860	1950,'51	m,(27)
DF-302	4604-4611	800	GM-EMD	SW-8	B-B	52,875	211,500	1953	m,db
DF-303	4612-4621	800	GM-EMD	SW-8	B-B	55,265	221,060	1953	m,db
DF-304	4622-4623	800	GM-EMD	SW-8	B-B	57,335	229,340	1954	m,db
DF-305	4624-4625	900	GM-EMD	SW-900	B-B	58,150	232,600	1954	m
DF-306	4626-4633	900	GM-EMD	SW-900	B-B	59,180	236,720	1954	m
DF-307	4634-4645	900	Alco	S6	B-B	58,820	235,280	1955-'56	m
DF-500	4800-4801	2400	FM	H24-66	C-C	95,525	328,100	1953	m,db,s
DF-501	4802-4815	2400	FM	H24-66	C-C	94,830	379,320	1953-'54	m,db,s
DF-603	5600-5603	1750	GM-EMD	GP-9A	B-B	64,460	257,850	1954	m,db,s
DF-605	5604-5621	1750	GM-EMD	GP-9A	B-B	62,520	250,080	1955	m,db
DF-606	5622-5625	1750	GM-EMD	GP-9A	B-B	64,930	259,720	1955	m,s
DF-607	5626-5719	1750	GM-EMD	GP-9A	B-B	62,450	249,620	1956	m,db,(28)
DF-608	5720-5721	1800	Alco Pr.	RS-11	B-B	65,740	262,960	1956	m,db
DF-609	5722	1800	Alco Pr.	RS-11	B-B	65,615	262,460	1956	m,db,s
DF-610	5723-5729	1800	Alco Pr.	RS-11	B-B	62,800	251,200	1956	m,db
DF-611	5730-5799	1750	GM-EMD	GP-9A	B-B	62,200	248,800	1957	m,db
DF-700	1	450	GE	NG	B-B	25,500	102,000	1954	(29)
DP-3	5916-5917	2000	GM-EMD	E-7B	A1A-A1A	(30)	(30)	1946	(31),m,s
DP-4	6000B&C-6004B&C	2000	GM-EMD	E-7B	A1A-A1A	53,150	315,500	1947	(32),m,s
DP-4	5900-5909	2000	GM-EMD	E-7B	A1A-A1A	53,150	315,500	1947	(32),m,s
DP-4	6000A-6004A	2000	GM-EMD	E-7A	A1A-A1A	54,900	325,700	1947	(33),m,s
DP-4	6000-6004	2000	GM-EMD	E-7A	A1A-A1A	54,900	325,700	1947	(33),(34),
	6017		GM-EMC			55,295	332,100	1937	m,s
DP-5	6005B-6007B	2000	Alco-GE	PB-2	A1A-A1A	51,650	309,800	1948	(35),m,db,s
DP-5	5910-5912	2000	Alco-GE	PB-2	A1A-A1A	51,650	309,800	1948	(35),m,db,s
DP-5	6005A&C-6007A&C	2000	Alco-GE	PA-2	A1A-A1A	53,100	318,580	1948	(36),m,db,s
DP-5	6005-6010	2000	Alco-GE	PA-2	A1A-A1A	53,100	318,580	1948	(36),m,db,s
DP-6	6008B-6010B	2000	Alco-GE	PB-2	A1A-A1A	51,875	311,350	1949	(37),m,db,s
DP-6	5913-5915	2000	Alco-GE	PB-2	A1A-A1A	51,875	311,350	1949	(37),m,db,s
DP-6	6008A&C-6010A&C	2000	Alco-GE	PA-2	A1A-A1A	53,180	319,300	1949	(38),m,db,s
DP-6	6011-6016	2000	Alco-GE	PA-2	A1A-A1A	53,180	319,300	1949	(38),m,db,s
	6055-6058					52,395	314,600		(39)
DP-7	6018	2250	GM-EMD	E-8A	A1A-A1A	55,360	328,550	1950	m,db,s
DP-8	5918-5919	2000	Alco-GE	PB-2	A1A-A1A	51,865	311,190	1950	m,db,s
DP-8	6019-6022	2000	Alco-GE	PA-2	A1A-A1A	52,860	217,160	1950	m,db,s
DP-9	5920-5921	2000	Alco-GE	PB-2	A1A-A1A	52,000	312,000	1952	m,db,s
DP-9	6023-6027	2000	Alco-GE	PA-2	A1A-A1A	53,165	318,980	1952	m,db,s
DP-10	5922-5924	2000	Alco-GE	PB-2	A1A-A1A	52,150	312,900	1953	m,db,s
DP-10	6028-6033	2000	Alco-GE	PA-2	A1A-A1A	53,035	318,200	1953	m,db,s
DP-11	6034-6045	2000	Alco-GE	PA-2	A1A-A1A	53,025	318,150	1953	m,db,s
DP-12	6046-6054	2400	GM-EMD	E-9A	A1A-A1A	56,600	335,000	1954-'55	m,db,s
DS-1	1000	600	GM-EMC	SW-1	B-B	49,600	198,300	1939	
DS-2	1001	660	Alco-GE	S1	B-B	49,500	197,900	1939	
DS-3	1002-1003	660	Alco-GE	S1	B-B	49,200	196,700	1939	
DS-4	1004-1009	600	GM-EMC	SW-1	B-B	49,800	199,300	1939	
DS-5	1010-1016	600	GM-EMD	SW-1	B-B	49,500	197,900	1941	
DS-6	1017-1020	660	Alco-GE	S1	B-B	49,500	197,800	1941	
DS-7	1021-1022	660	Baldwin	VO	B-B	49,390	197,560	1941	
DS-8	1023-1032	660	Alco-GE	S3	B-B	48,990	195,950	1951	
DS-9	1033-1051	900	Alco	S6	B-B	58,195	232,780	1955	
DS-10	1052	900	Alco	S6	B-B	58,195	232,780	1955	
DS-11	1053-1072	900	Alco-Pr.	S6	B-B	58,080	232,310	1956	
DS-12	1073-1090	900	Alco-Pr.	S6	B-B	57,930	231,730	1956	
DS-100	1300-1309	1000	Alco-GE	S2	B-B	58,000	231,900	1941	
DS-101	1310-1319	1000	GM-EMD	NW-2	B-B	62,100	248,300	1941	
DS-102	1320-1324	1000	Baldwin	VO	B-B	59,200	236,800	1941	
DS-103	1325-1329	1000	Baldwin	VO	B-B	59,700	238,800	1942	
DS-104	1330-1344	1000	Alco-GE	S2	B-B	57,700	230,800	1942	
DS-105	1345-1370	1000	Alco-GE	S2	B-B	57,900	231,700	1943-'44,'50	
	1386-1392								
	1426-1441								
DS-106	1375-1376	1000	Baldwin	VO	B-B	59,000	236,000	1943	
DS-107	1377-1385	1000	Baldwin	VO	B-B	59,400	237,500	1943-'44	
	1371-1374								
DS-108	1393-1402	1000	B-W	DS 4-4-1000	B-B	57,275	229,100	1948	
DS-109	1403-1425	1000	GM-EMD	NW-2	B-B	61,645	246,580	1949	
DS-110	1442-1463	1200	BLHW	S-12	B-B	59,090	236,350	1951	
DS-111	1464-1485	1000	Alco-GE	S4	B-B	57,480	229,930	1951-'52	
DS-113	1486-1491	1200	FM	H12-44	B-B	62,000	248,000	1952	
DS-114	1492-1513	1200	BLHW	S-12	B-B	59,940	239,750	1952-'53	(40)
DS-115	1514-1528	1000	Alco-GE	S4	B-B	57,600	230,400	1952-'53	
DS-117	1529-1538	1200	FM	H12-44	B-B	62,250	249,000	1953	m
DS-118	1539-1550	1200	BLHW	S-12	B-B	62,185	248,750	1953	m
DS-119	1551-1567	1000	Alco	S4	B-B	61,660	246,650	1955	
DS-120	1568-1576	1200	FM	H12-44	B-B	61,193	244,770	1956	
DS-121	1577-1586	1200	FM	H12-44	B-B	61,335	245,340	1956	
DS-122	1587-1596	1200	FM	H12-44	B-B	61,230	244,920	1957	
DS-200	1900-1902	380	GE	44 ton	B-B	22,300	89,200	1942	
DS-201	1903	380	GE	44 ton	B-B	22,300	89,200	1945	
89	206	380	GE	44 ton	B-B	22,300	89,200	1943	(45)
none	570	(41)	Daven.	20 ton	B	(41)	187,700	1941	(46)

VISALIA ELECTRIC RAILROAD — DIESEL LOCOMOTIVES

none	502	380	GE	44 ton	B-B	22,300	89,200	1945	

NOTES *(Continued from page 67)*

and renumbered T&NO 700-723 promiscuously: 500-514,516-523,525.

(4) Wt.-234,400-238,470, TE 58,600-59,620 promiscuously.

(5) Renumbered 6140-6179: 6120A&D-6125A&D,6126 F&A,6127A&F-6139A&F.

(6) Promiscuous Wt. 233,650 and 237,720, TE 58,450 and 59,430.

(7) Renumbered 8040-8079 consecutively.

(8) Renumbered 6180-6185 consecutively. 6182 wt. 240,770 TE 60,190.

(9) Renumbered 8080-8085 consecutively. 8082 wt. 235,070, TE 58,770.

(10) Renumbered 6186-6239 consecutively. The following were transferred to T&NO and renumbered 338-353: 6187,6189,6221,6212,6205,6200,6198,6220,6199, 6197,6213,6196,6201,6186,6204. 6202-6203,6206,6223 wt. 241,370, TE 60,340 338-348 retransferred to SP.

(11) Renumbered 8086-8139 consecutively. The following were transferred to T&NO and renumbered 526 - 541: 8101,8087,8112,8104,8096,8120,8099,8086,8089, 8105,8100,8098,8113,8088,8097. 8094 is not s. 8126,8129, 8139 wt. 251,470, TE 62,870. 526-534 put back on SP.

(12) Wt. 238,370, 234,300, 241,450, TE 59,590, 58,875, 60360 promiscuously.

(14) Wt. 235770, 238,850, 231,700, TE 58,940, 59,710, 57,925 promiscuously.

(15) Wt. 237370 240,450, 233,300, TE 59,340, 60,110, 58,325 promiscuously.

(16) 8217-8218 Wt. 234,470, TE 58,620. 8220,8226, 8231 Wt. 239,550, TE 59,390.

(17) 6347-6349, 6366-6367, 6428-6432,6434-6438 Wt. 237,220, TE 59,300. 6357 Wt. 240,300, TE 60,075.

(18) 8286-8289 transferred from T&NO and renumbered from 538-541 consecutively. 8245, 8247 Wt. 237,400, TE 59,350. 8247,8262 Wt. 234,320, TE 59,580.

(19) 5202, 5211, 5223, upped to 1600 hp.

(20) 5500-5505 renumbered 4900-4905 consecutively.

(21) 5228-5230, 5234 are m.

(22) 5243,5245 are 1500 hp.

(23) 5253-5262, 5273-5276 are m.

(24) 5288-5289 wt. 359,100, TE 89,775.

(25) 5316 is not s.

(26) 5107-5108 are not m. Wt. 139,000, TE 34,750.

(27) DF-300 and DF-301 are cow and calf units respectively. DF-300's have trolley poles for operation on Pacific Electric Ry.

(28) 5626-5627,5629-5630 TE 62,750 wt. 251,000.

(29) Narrow gage.

(30) 5916 wt. 319,875, TE 53,860. 5917 Wt. 316,750, TE 53,350.

(31) Jointly owned UP SF-8,SF-9 became UP 908B-909B, then 986BJ-986CJ, then SP 6011B-6011C, then SP 5916-5917.

(32) 6000B&C-6004B&C renumbered 5900-5909 consecutively.

(33) 6000A-6004A renumbered 6000-6004 consecutively.

(34) Jointly owned SF-1 was renumbered UP 901A, then UP 983J, then SP 6011A, then SP 6017. 6017 was rebuilt to an E7 in 1954.

(35) 6005B-6007B renumbered 5910-5912.

(36) 6005A&C-6007A&C renumbered 6005-6010 consecutively. 6010 wt. 312,850, TE 52,150.

(37) 6008B-6010B renumbered 5913-5915.

(38) 6008A&C-6010A&C renumbered 6011-6016 consecutively.

(39) T&NO 204-207 transferred to SP and renumbered 6055-6058 consecutively.

(40) SP 1498 and 1505 transferred to T&NO and renumbered 121-122 consecutively.

(41) Not available.

(42) 182-183 are s. Wt. 334,000, TE 73,500.

(43) Gasoline powered.

(44) 1650-1652 leased to SP. 1654 leased to T&NO.

(45) Converted to shop switcher in 1956.

(46) Converted to shop switcher in 1948.

(47) 1299 BP 175, built 1918.

(48) Cyls. 19x26, dri. 51.

(49) ex-1162, converted to shop switcher 1935.

(50) ex-1191, converted to shop switcher in 1948.

(51) ex-1010, converted to shop switcher in 1937.

(52) 2765,2818 wt. 225,600. 2827 built by Alco.

(53) 2850 built by SP.

(54) 3400 TE 42,280, cyls. 22½x28. 3406 TE 40,420, cyls. 22x28.

(55) 3634 wt. 348,000. 3643 wt. 352,000.

(56) 2861-2868 leased from SSW and renumbered from 751,753,755,768,773,777,781,783, respectively.

(57) 4488 leased from SSW, renumbered from 813.

(58) SF-1-SF-9 were jointly owned by Southern Pacific, Union Pacific, and Chicago & Northwestern. SP owned 34.49 percent of locomotives. SP acquired 100 percent of SF-1, SF-8, SF-9 on Dec. 2, 1948. UP acquired remainder.

(59) SF-1 became UP 901A, UP 983J, SP 6011A, SP 6017.

(60) SF-2,SF-3 became UP 902B,903B, UP 983BJ, 983CJ.

(61) SF-4 became UP 904A, UP 985J.

(62) SF-5,SF-6 became UP 905B,906B, UP 985BJ, 985CJ.

(63) SF-7 became UP 907B, UP 986J.

(64) SF-8,SF-9 became UP 908B,909B, UP 986BJ, 986CJ, SP 6011B,6012B, SP 5916,5917.

Roster compiled from data supplied by General Superintendent of Motive Power of Southern Pacific Railroad, Assistant Public Relations Manager of Texas & New Orleans RR., Electro-Motive Div. of General Motors Corp., and Railway & Locomotive Historical Society Bulletin No. 94.

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Texas & New Orleans Railroad

DF-1	313,315 313-319, 321,326-329	1500	GM-EMD	F-3A	B-B	58,650	234,600	1947-'48	(1),m,db
DF-1a	515,524	1500	GM-EMD	F-3B	B-B	(2)	(2)	1947-'48	(3),m,db
DF-4	349-353	1500	GM-EMD	F-7A	B-B	59,325	237,300	1949	(10),m,db
DF-4a	535-541	1500	GM-EMD	F-7B	B-B	61,850	247,400	1949	(11),m,db,s
DF-9	354-363	1500	GM-EMD	F-7A	B-B	62,115	248,450	1953	m,db
DF-9a	546-547	1500	GM-EMD	F-7B	B-B	61,565	246,250	1953	m,db
DF-10	542-545	1500	GM-EMD	F-7B	B-B	62,950	251,800	1953	m,db,s
DF-11	364-381	1500	GM-EMD	F-7A	B-B	62,055	248,220	1953	m,db
DF-13	548-553	1500	GM-EMD	F-7B	B-B	61,400	245,610	1953	m,db
DF-14	600-628	1750	GM-EMD	F-9A	B-B	62,010	248,050	1954-'56	(1),m,db
DF-14	700-723	1750	GM-EMD	F-9B	B-B	62,010	248,050	1954-'56	(3),m,db
DF-115	170-176	1600	Alco-GE	RSD-5	C-C	81,775	327,100	1953	m,db
DF-119	155-169	1600	Alco-GE	RSD-5	C-C	81,690	326,750	1953	m,db
DF-302	12-16	800	GM-EMD	SW-8	B-B	58,150	232,600	1953	m,db
DF-400	108-112	1200	GM-EMD	SW-9	B-B	61,835	247,350	1953	m,db
DF-401	113-118	1200	GM-EMD	SW-1200	B-B	62,320	249,280	1954	m,db
DF-402	123-128	1200	GM-EMD	SW-1200	B-B	61,910	247,640	1957	m,db
DF-600	400-410	1750	GM-EMD	GP-9A	B-B	63,350	253,400	1954	m,db
DF-601	240-249	1750	GM-EMD	GP-9A	B-B	63,900	255,600	1954	m,db,s
DF-602	280-283	1750	GM-EMD	GP-9A	B-B	64,200	256,800	1954	m,db,s
DF-604	411-428	1750	GM-EMD	GP-9A	B-B	63,040	252,160	1954-'55	m,db
DF-607	429-438	1750	GM-EMD	GP-9A	B-B	63,210	252,830	1956	m,db
DF-611	439-448	1750	GM-EMD	GP-9A	B-B	62,200	248,000	1956	m,db
DP-6	200-211	2000	Alco-GE	PA-2	AIA-AIA	51,480	308,870	1949	(39),m,db,s
DS-5	11	600	GM-EMD	SW-1	B-B	49,500	197,900	1941	
DS-6	10	660	Alco-GE	S1	B-B	49,500	197,800	1941	
DS-105	30-71	1000	Alco-GE	S2	B-B	57,900	231,700	1943-'44,'47,'49	
DS-105a	89-94	1000	Alco-GE	S2	B-B	57,310	229,250	1950	
DS-109	72-88	1000	GM-EMD	NW-2	B-B	61,645	246,580	1949	
DS-111	95-104	1000	Alco-GE	S4	B-B	57,480	229,930	1951	
DS-112	105-107	1200	BLHW	S-12	B-B	59,625	238,500	1952	
DS-114	121-122	1200	BLHW	S-12	B-B	59,940	239,750	1952-'53	(40)
DS-300	187-188	1500	B-W	DRS 6-6-1500	C-C	82,250	329,000	1949	
DS-301	189-190	1500	B-W	DRS 6-6-1500	C-C	81,950	327,800	1949	
DS-302	177-184	1600	BLHW	AS-616	C-C	82,075	328,300	1952	(42)
DS-303	185-186	1600	Alco-GE	RSD-5	C-C	81,490	325,970	1953	
S	2	190	Plymouth	none	B	12,500	50,000	1935	(43)

PACIFIC ELECTRIC RAILWAY — DIESEL LOCOMOTIVES

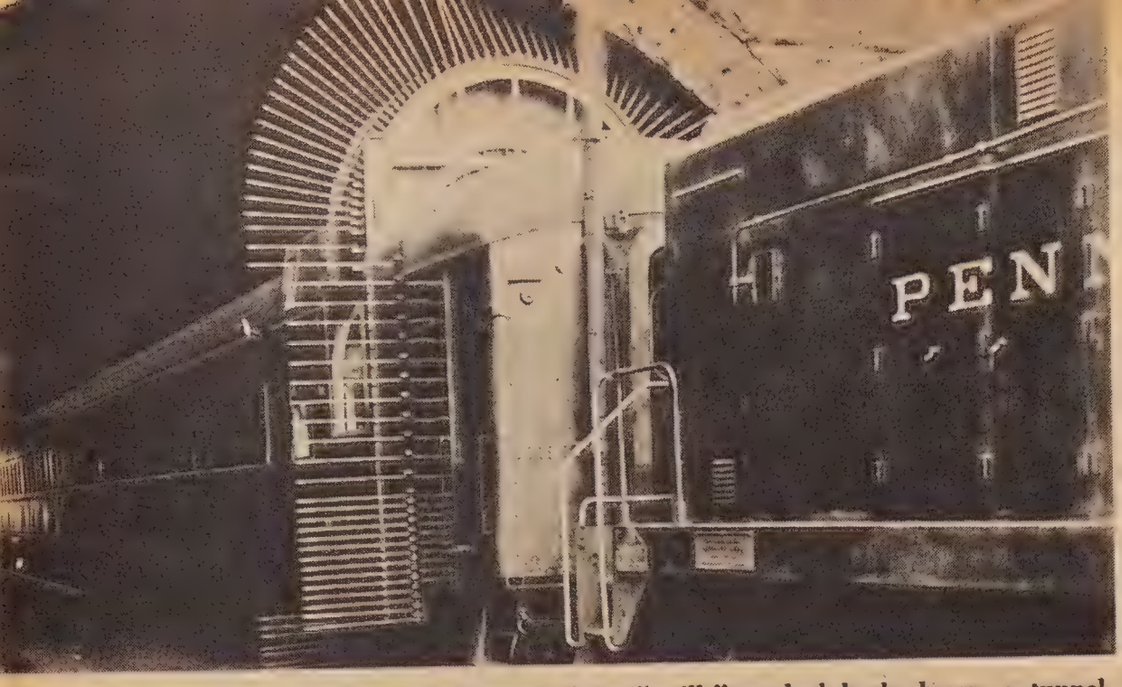
S	1650-1654	380	GE	44 ton	B-B	22,000	88,000	1944	(44)
S	1646	190	Plymouth	none	B	12,500	50,000	1935	(43)
S	1647	225	Plymouth	none	B	14,625	58,500	1951	

PETALUMA & SANTA ROSA RAILROAD — DIESEL LOCOMOTIVES

none	1-2	380	GE	44 ton	B-B	22,300	89,200	1946

JOINTLY-OWNED DIESEL LOCOMOTIVES

Dep-1	SF-1	1800	GM-EMC	E-2A	AIA-AIA	53,500	317,580	1938	(58),(59), m,db,s
Dep-1	SF-2,SF-3	1800	GM-EMC	E-2B	AIA-AIA	52,900	313,940	1938	(58),(60), m,db,s
Dep-2	SF-4	2000	GM-EMD	E-6A	AIA-AIA	53,200	315,700	1941	(58),(61), m,db,s
Dep-2	SF-5,SF-6	2000	GM-EMD	E-6B	AIA-AIA	53,000	314,500	1941	(58),(62), m,db,s
Dep-3	SF-7	2000	GM-EMD	E-7A	AIA-AIA	54,550	324,180	1946	(58),(63), m,db,s
Dep-3	SF-8,SF-9	2000	GM-EMD	E-7B	AIA-AIA	53,850	319,880	1946	(58),(64), m,db,s



Pennsy clearance car, with some of its "quills" pushed back, leaves a tunnel.
Pennsylvania Railroad

Mechanized Porcupine

MAYBE you've seen that mechanized porcupine nosing its way along the rails. The weird-looking contraption bristling with metal "quills" is the Pennsylvania Railroad's clearance car and it's doing a job that enables manufacturers to ship a great variety of gawky, out-size products.

The clearance car's business is to find out the exact height, width, or distance from the center of the rails of every structure along the Pennsy—structures such as tunnels, overhead bridges, power poles, station platforms, third rails, and the like.

From this data, which is constantly being revised and up-dated, freight officials can determine quickly whether any proffered "high, wide, and heavy" shipment can be handled between two given points—and, if not, what steps can be taken to make it possible.

Built at a cost of more than a quarter of a million dollars at the company's Altoona shops, the clearance car uses 126 steel-tipped aluminum feelers, jutting from either side and arching across its top, in much the same way as a prowling tomcat uses his whiskers to negotiate a narrow, dark passageway.

Pulled by a locomotive and trailed by a crew coach, the clearance car approaches the structure to be measured with its feelers fully extended. As it rolls into a tunnel or under a bridge, the feelers are brushed back to conform to the contours of the structure.

An intricate system of cables and gears enables two crew members inside the car, manning an array of instruments, to read the measurements of each feeler to an eighth of an inch on a magnified dial similar to the one on which you read your weight on the bathroom scales.

Back at the Pennsy's system headquarters in Philadelphia, is the clearance engineer, John G. Greenlee, who conceived and drew the preliminary designs for the present porcupine-on-wheels that replaced an older model. Mr. Greenlee correlates these hundreds of individual graphs into charts and manuals to guide the freight traffic and maintenance of way departments. His finished product shows the maximum height and width of shipments that can be accommodated on every line in the Pennsylvania system—23,855 miles of track operated in thirteen states and the District of Columbia.

The clearance car, which can bite off far into the future. Portions of track an average of 100 miles of track a day, has a full schedule mapped out for it presenting the greatest clearance problems are measured every six months; others, once a year; still others, every two years, and lightly used branch tracks, every five years. The car is also available on a rental basis to smaller railroads with clearance problems and no equipment to solve them.

At first glance it might seem that, once the height of a bridge or the width of a tunnel had been checked, there would be no need to do it again. But that isn't true.

Larger, faster equipment and the ever-increasing size of the shipments carried make it imperative that clearance data be kept up-to-date. The centrifugal force of a high-speed train, for example, may cause tracks to creep toward the outside of a curve as much as three inches over a period of time. If this curve happens to be in a tunnel where the clearance already was tight, every fraction of an inch can be important.

Similarly, a section crew may raise a length of track slightly to obtain better drainage. If it happens to run under a low-slung bridge, a new clearance measurement is vital. You must even take the weather into consideration when you figure clearances, for a deep freeze can cause the ballast supporting the rails to rise as much as five inches if drainage happens to be poor.

The modern trend toward manufacturing bigger and bulkier pieces of equipment and machinery—and shipping them in one piece to avoid the added expense of dismantling and reassembling them—gives clearance studies their greatest importance. The Pennsy's policy is never to reject a load that could possibly be worked into its clearance pattern, regardless of the problems involved.

Sometimes a section of track must be lowered a foot or so to squeeze a towering generator under a low bridge. Sometimes the tracks on either side must be cleared of all traffic to make room for carloads of fat turbines to lumber by. Other times a shipment may be so outsized—and the direct-route clearance problems so numerous—that it will have to make a wide detour involving three or four times as much travel as a normal-size load between the same two points.

On the basis of Mr. Greenlee's graphs and charts, track crews are constantly at work increasing clearances along more heavily used routes. For example, $9,000,000 was spent to eliminate four tunnels and widen a fifth on a 37-mile stretch of Pennsy track west of Steubenville, Ohio. These improvements, by eliminating circuitous detours, have trimmed an average of two days off delivery times of oversized shipments and extra large boxcars between Pittsburgh and the gateway cities of St. Louis, Cincinnati, and Louisville.

MAIL CAR

(Continued from page 10)

there to serve any custom who comes in. The same applies to station agents."

Finally, we hear from W. K. Collins, the Ann Arbor station agent at Elsie, Mich., and local chairman of the Order of Railroad Telegraphers. "Never have I seen a station closed but what the town sooner or later went right down. By closing a station, the company usually wants to put its patrons on a prepay basis. Now, a lot of companies, such as coal mines, don't want to bother with prepaying freight charges. Result, business goes over to the trucks, and the railroads have lost out." ●

PERSONALITIES. Oldest and youngest engineers on the Chicago & Eastern Illinois seniority list, Arthur J. Wade and his son, Arthur F., made the Danville-to-Chicago run together in the father's engine cab the other day. It was A. J.'s last trip before retirement. He lives at 307 W. Voorhees St., Danville, Ill.

In the 1880's a one-man railroad, the 10-mile Cincinnati, Hocking Valley & Huntington (now abandoned) had but one locomotive and was owned and operated by John Karshner.

A former purchasing agent of the Michigan Central Railroad, Edmund J. Copeland of Detroit, who was credited with having invented and built the first practical, automatic, home refrigerator, died recently at age 73, reports Alexander Darragh.

Henry Ford, founder of the Ford industrial empire, was president of the Detroit, Toledo & Ironton Railroad in the 1920's.

Illustrated features from *Railroad Magazine* are being used in bulletin-board displays to teach history at Queen Anne High School in Seattle by C. H. Heffelfinger, head of the school's Department of History, 2411 8th West, Seattle, Wash.

Hannibal Hamlin, first president of the Bangor & Piscataquis (oldest railroad in the present Bangor & Aroostook) was Vice President of the United States during the Civil War.

One of our foreign readers is John Bull C. Amaajuoyi, news agent, 7 Ohafia St., Umuhia-ibeku, Nigeria, Africa. John is proud of the 2,218-mile railway in his country. This line is mostly 3½-foot gage; 133 miles are 2½-foot gage. It was started in 1898, opened to traffic in 1901, and now has 256 locomotives (all steam).

James Roosevelt, father of Franklin D., was president of the Louisville, New Albany & Chicago Railroad and vice president of the Delaware & Hudson. We do not know of anyone else named Roosevelt who was a railroad man.

There's a clan in eastern Kentucky—the Littleton and Shepherds—that has racked up a total of more than 1,300 years of Chesapeake & Ohio service. Owen M. Littleton, clerk-telegrapher in Cleveland, can count 65 members of his family who have worked for C&O in many branches of service. ●

ALTHOUGH Rastus Thompson was employed in Atlantic Coast Line engine service for 51 years without missing a day's work and although he fired Presidential Specials for William McKinley, Herbert Hoover and F. D. Roosevelt, his brown skin kept him from being promoted to the right side of the cab. No Negro, regardless of his qualifications, is admitted to membership in the Brotherhood of Locomotive Engineers.

Rastus Thompson

Mr. Thompson hired out to the ACL at age 17 and fired many woodburner. Later, he shoveled as much as 32 tons of coal daily into locomotive fireboxes. A few weeks ago he retired. This man is the father of eight children. After toiling and sweating over the years to put them all through college, he was proud to see *each one of the eight* get a college degree! That is rare. We doubt if any other railroader, white or colored, can match it. Because of his exceptional record, we hereby nominate Rastus Thompson as Railroad Man of the Year. ●

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nificance, for on this very route French railroads began away back in 1827. Horses pulled the first trains. French steam engines first appeared in 1829 on the same line. Two electric locomotives now used on this route hold the world's train-speed record of 206 mph. They haul the world's fastest passenger train, *Le Mistral,* which makes the 327 miles between Paris and Lyon in four hours, an average 80 mph speed, including one stop.

AUSTRALIA HEARD FROM. "The Norfolk & Western Class A steamers dispose of Sy Reich's argument that diesels maintain higher speed schedules than steam ever did," writes Roger Boland, Middle Creek, via Sarina, North Queensland, Australia. "During 1953 those beautiful jobs hauled 6,120 gross-miles at 28 mph. for an average of 172 miles per day as compared with 2,914 gross ton-miles at 19 mph. for 150 miles per day on all of America's Class 1 roads.

"The New York Central's Niagara (4-8-4) type steamers had maintenance costs of only $.356 per mile and fuel costs of $.410 as compared with $.500 for maintenance and $.420 for fuel for three-unit diesels which are now doing the same work.

"Australia has dieselized in a big way, with disastrous results. All of our states showed record deficits. Freight rates have gone up by up to 50 percent at one jump and are creating much user-resistance.

"I would welcome an occasional genuine diesel article in *Railroad Magazine,* but not the kind of diesel propaganda which has been dished up to us for years by too many railroad periodicals. So far as I am concerned, you can't publish too many steam locomotive features."

Challenging Roger's logic in comparing overall railroad average with one specific case, Sy Reich replies: "Diesels which took over the Class A job are now hauling freights at a speed higher than that of the old Class A's. Try comparing the average overall steam speed for 1946-'7 with the same for diesels in 1956-'7!" Sy also questions the accuracy of Roger's New York Central figures.

BURLINGTON LINES Vice President S. L. Fee, who reads *Railroad Magazine,* comments on a caption in our June issue which described the M-4-A's as the "mightiest of all Burlington's locomotives": "In 1920 I was a distributor of power on this railroad. I remember one engine, the 4200, a 2-8-8-2, Class T-3, which we bought in 1911 from Baldwin for the specific purpose of pushing coal trains up Browning Hill, north of Beardstown, Ill. (Photo below.) That engine had 93,000 pounds tractive effort, while the M-4-A has only 83,300."

DIESEL-HYDRAULIC. A new chapter in the modernization of British Railways has begun with the Western Region's inaugural run of the *Active,* No. D600, a new diesel-hydraulic locomotive. Hauling a nine-coach train from London to Bristol and back, the *Active* is the 2,000-hp. forerunner of 130 diesel-hydraulics which will eventually replace 200 steamers in British Railways' Western Region. She was built by the North British Locomotive Company in England.

The diesel-hydraulic transmission principle had been used with success in British switching engines, but this is its first application in Great Britain to a type designed for main-line duty.

FESTINIOG RAILWAY, the world's first narrow-gage to apply steam traction successfully, which was abandoned in 1946, is now operating 7½ miles of its 13¼-mile line, reports Harry W. Gow, 33 Spadina Rd., Toronto, Canada, member of the Festiniog Railway Society. This Society supplied cash and volunteer labor to restore part of the line, and aims to complete the job.

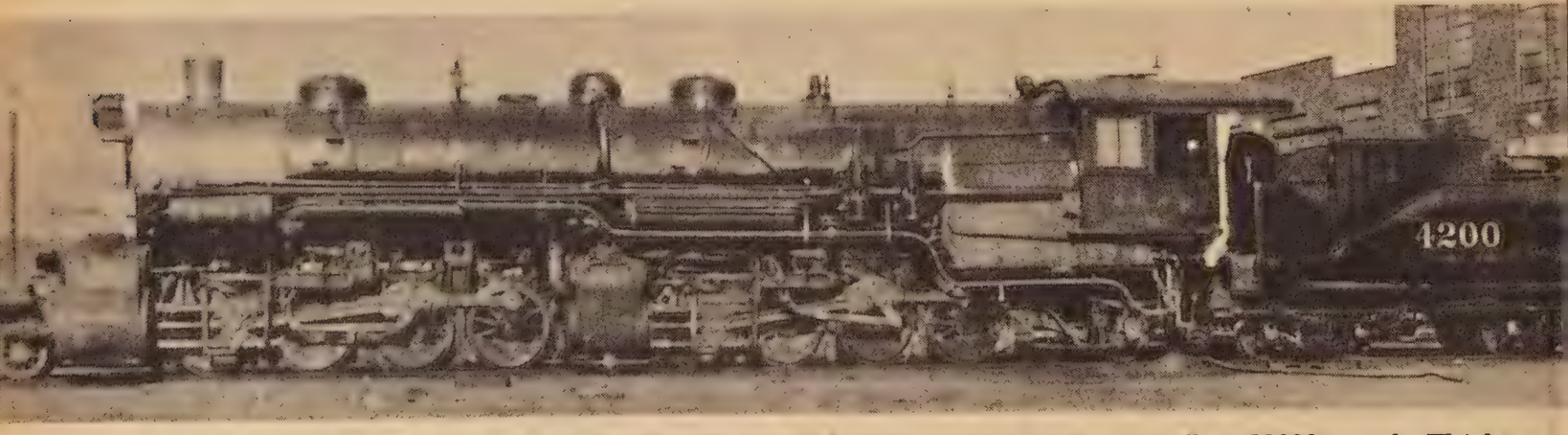
Further details appear in the *Festiniog Railway Guide,* fully illustrated with photos, maps, timetable, and all-time roster. The *Guide* may be obtained for 25 cents (you can get International Money Order at any post office) from R.H.R. Gassaway, 35 Holmwood Rd., Cheam, Surrey, England.

RED LIGHT. "Tomorrow's traveler is going to miss his train," Nancy Ford writes in *Modern Railroads.* "He's going to miss it because there won't be any train—if present trends continue.

"Only a crash program, quick and drastic, can save the passenger business from total extinction or governmental operation as a stand-by service. Commuter services—in the East, at least—already seem headed toward state or local subsidy of one kind or another."

She urges: (1) Discontinuance of money-losing trains, (2) labor's cooperation in dropping outmoded "full crew" and other featherbedding practices, and (3) management to design and equip services to fit the role and to price them attractively.

Al Perlman, New York Central president, says: "If your passenger business is only a small percentage of your total



Powerful, indeed, was this Burlington Mallet, No. 4200, built by Baldwin in 1911. Tractive effort, 93000 pounds. Weight on driving wheels, 406,000 pounds. Total weight, 448,000 pounds. Overall length, including tender, 103½ feet. She was equipped with a separate type boiler, with a flexible coupling between the two boilers, and she had two different sets of flues.
S. L. Fee, Vice President, Burlington Lines

business, maybe you can afford to charge the loss to advertising and promotion. But try it when half of your total train-miles are passenger-miles!"

The Central has had to consolidate two crack New York-Chicago trains, the 20th *Century Limited* and the *Commodore Vanderbilt*, for the poor summer season, and such things are happening all over the country. It's high time Congress ended that 10 percent "wartime emergency" tax on travel!

Railroad labor is understandably reluctant to give up its hard-won gains. Many conservative Brotherhood leaders would rather see the total number of railroad jobs dwindling than yield an inch on the controversial issue of "full crew" law.

More realistically, British Railways now have one-man crews on nearly all diesel locomotives. That change helps to keep trains running. Is there a good reason why the same change, or a modified version of it, cannot succeed in North America also? ●

DESERT RUN. This is the story of Virgil E. Cromb, 1614 N. 16th Ave., Phoenix, Ariz., who went above and beyond the line of duty by providing drinking water for wildlife in the Arizona wasteland. Our information comes from Thelma Heatwole.

As his train roared through the parched desert north of Wickenburg he saw birds and beasts suffering from thirst. Some time before, a conductor named George Marsh had been taking water to them, and Mr. Cromb decided to do the same. Before setting out on each run, winter or summer, he would patiently fill five-gallon cans with water and load them on his engine. Then at remote Mathis Junction he would lift them down and pour the water into troughs that stood on the sandy ground.

For 25 years he kept it up. Gradually the timid creatures got to know him. Because of his one-man project, the State Game Department officially designated Mathis Junction area as a refuge for wildlife.

When the time came for Virgil Cromb to retire, his chief concern was for his wildlife friends. "They've been counting on me out there in the desert," he said. "If the water supply failed, a lot of birds would die of thirst in the dry season. But someone else will carry on." ●

THE STORY is told of a trainmaster who was standing on the station platform at The Dalles, Ore., one night when a highballing crew stopped freight train No. 126 to cut off a boxcar. Checking his watch, he noted that the run had been made a few minutes faster than schedule, almost as fast as the Union Pacific's top passenger train. Then he raised an eyebrow toward the conductor and said:

"On-time performance is what we want, but don't let your enthusiasm make you think you should outrun the *City of Portland*."

We culled this item from *The Trainmaster*, mimeographed organ of the NRHS, Pacific Northwest Chapter, edited by C. J. Keenan, 6354 N.E. Cleveland Ave., Portland, Ore. ●

BUTTE, Montana, is served by two electric railroads, the Milwaukee and the Butte, Anaconda & Pacific, the latter being a very healthy but short freight line, reports Randall T. Chew III, 1457 Englewood Ave., St. Paul, Minn., who visits Butte occasionally in his travels as a Northern Pacific geologist. (By the way, how many readers knew that a railroad company employed a geologist?)

"Both the Milwaukee and the BA&P use some diesels in electrified territory," he goes on. "On the Milwaukee the *Columbian Hiawatha* has been dieselized for months, but I haven't seen any Milwaukee dieselized freights. Electricity still rules the BA&P, although diesels do the switching and haul a few freights. This road recently took delivery of some new electric locomotives." ●

Next Issue — October (out July 31)

PUSH-BUTTON YARDS—by Peter Josserand, Western Pacific train dispatcher.

A DOLLAR A DIVISION—George Millburn, the nation's top authority on hobo lore, tells about rail-riding bums.

Plus RESTLESS FEET, one of Harry Bedwell's best fiction stories, L&N locomotive roster, New Haven electric roster, many good photos, your favorite departments, and a full-color cover. (For future issues, H. L. Kelso, our locomotive-type expert, is preparing features on the 4-8-4 and the Hudson type.)

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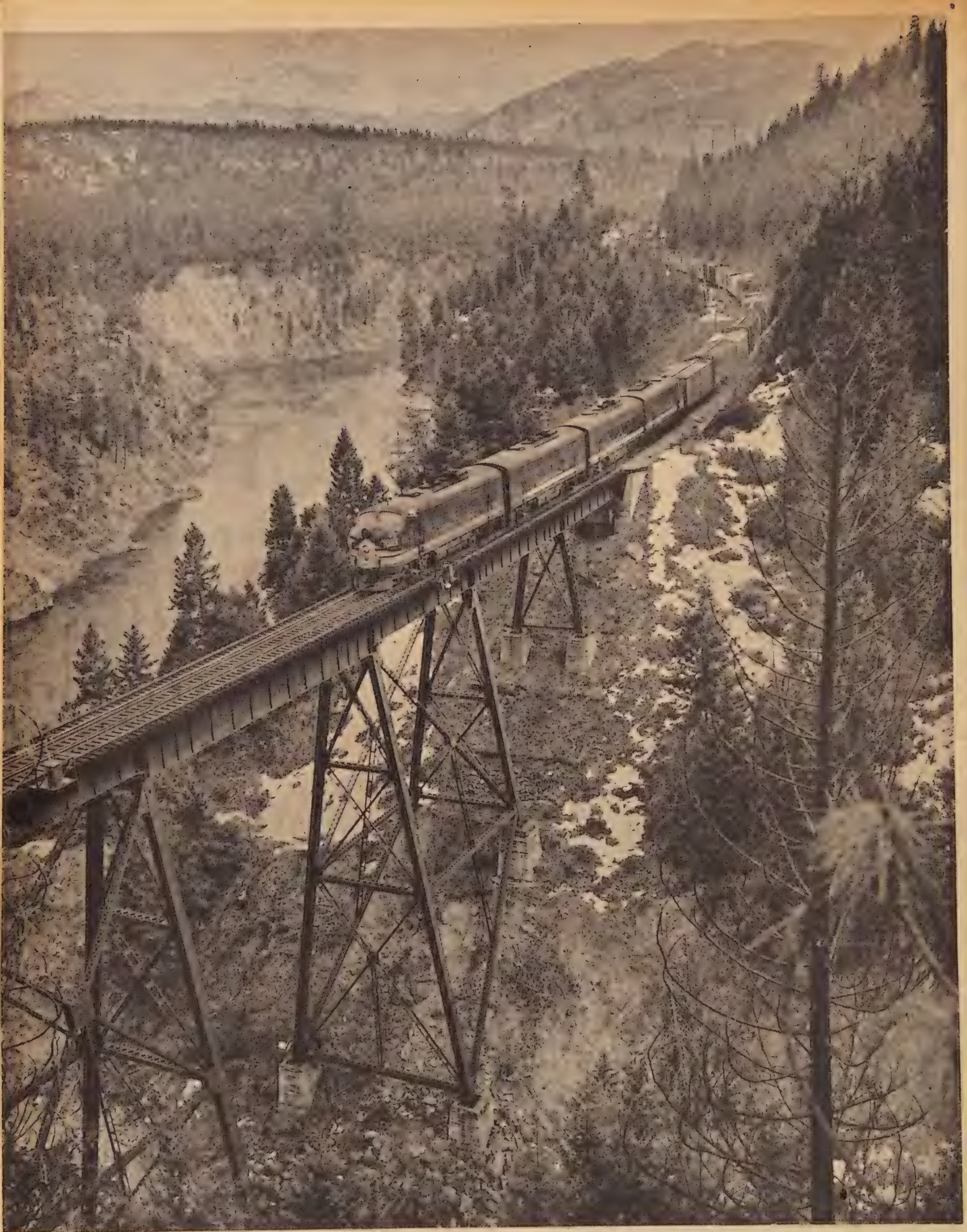

Even diesel-powered trains are photogenic if you catch them in the right setting. This shot shows four GM model F9 units, 1750 hp. each, wheeling a Northern Pacific freight (110 cars) westbound over Quartz Creek trestle, 40 miles from Missoula, Mont., on the freight-only line that follows the Clark River, from St. Paul to Seattle, 1893 miles in 60½ hours.

A. E. Allen, 603 Connell Ave., Missoula, Mont.

RAILROAD HOBBY CLUB

by Sy Reich

AFTER reading our comments on diesel vs. steam in the April issue, hundreds of readers have sent us letters and cards stating, for the most part, that they are steam fans but would tolerate some diesel material in the magazine now and then, provided we still used plenty of steam locomotive articles and pictures. A Southern Pacific fireman, Dave Wertz, 611 Jackson St., Seattle, Wash., says bluntly:

Sy Reich

"I buy *Railroad Magazine* not because I like railroads but because I like steam."

And Donald A. Pope, 30 N. 13th St., Richmond, Ind., urges: "Give us all the latest data you can get on steam power, even if it's only a list of dead engines on the scrap track or reserve line."

Judging from the letters, we also have a small but determined minority of diesel fans, while a considerable number of even the steam boys agree with our position that you can't live entirely in the past. Due to space limitation, we can quote only a few brief excerpts from the letters.

Although Kesler S. Morrison, RR. 1, Stony Brook, N. J., is essentially a steam enthusiast, he would welcome "pictures of all the major diesel-electric models, action shots of diesel-powered trains, and data on diesel tonnage ratings."

Another steam fan, Roy W. Gillis, 997½ Williams St., Denver, Colo., wants an article comparing steam and diesel performances on similar runs on the same road. He asks:

"What are the disadvantages of diesels? Would the diesel have fared so well if the railroads had been able through Depression years to do the research on steam that adequate earnings would have permitted? Why did the Pennsy drop steam so suddenly after developing its T1 and Q steamers? What, if anything, was wrong with the T1's and Q's?"

An Erie station agent, R. G. Nugent, 243 Main St., Dansville, N. Y., is philosophical. "Diesels, like Russians, are here to stay," he writes, "so we'd better try to live with them. I am not exactly fond of diesel articles, but let's have them anyhow, for the benefit of readers who do like them."

Dave Swaney, 220 Olin Ave., Girard, Pa., feels the same way. "I'm a steam fan, but I know that steam is doomed, and for your magazine I suggest a gradual transition to the inevitable. While the steamer had all the romance and glory of an era, that era has ended. Nothing we say or do will ever bring it back, so let's face it."

Several readers point out that even though the Old West is dead, it still fascinates millions of people. Pictures and stories of that period in movies, TV, books, comics, and magazines rate high in popularity.

"Would the average Western fan get a kick out of today's West?" one fellow asks. "*You* answer it. Why shouldn't this principle apply also to the steam era?"

Listen to Charles G. Mockbee, 1573 Bowman Ave., Dayton, O.: "I'm not interested in *modern* diesels, but I'd enjoy the inside story of how the early diesels first got a foothold on steam roads."

Larry Cohen of New York writes: "I am selling the bulk of my steam pix and buying a 35mm camera with which to start a collection of diesel and electric power. I have grown to like diesels."

Another new convert to diesels, William D. Volkner, Georgia Tech, Box 4445, Atlanta 13, Ga., still looks back wistfully at steam. "I agree 100 percent with your views on diesel power," he writes, "but the sight of a locomotive smoke plume trailing across the sky never fails to attract me. If it weren't for diesels, however, I doubt that we'd have many railroads left to look at, much less to ride.

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The Yreka Western, an 8-mile freight line in California, has gone diesel. It has two 2-8-2 steamers, Nos. 18 and 19, built by Baldwin in 1914 and '15 respectively for the McCloud River Railroad. No. 18 is being kept for stand-by service. The other engine, shown here on her last run, will probably be scrapped. T. M. Deter, Star Rte. 1, Yreka, Calif.

than meet the eye. Some units have steam generators, dynamic brakes, water-cooled superheaters, more lights, MU controls, etc.; others do not. For this reason, at least, a few diesel stories are definitely in order."

Too many camera fans over-emphasize engines, according to Wilson Jones, 293 Elsmere Pl., Palisade, N. Y. "Personally," he says, "I prefer train pictures that show new types of cars. As for color photography, the bright hues of diesel-powered streamliners have an eye-catching appeal that can take the place of steam and coal smoke, particularly in rural settings." ●

FLAGSTOPS

SOUTHERN PACIFIC LINES is the toughest roster job your *Hobby Club* editor ever tackled, because of the large number of diesel units—2000, with a total of 2,2884,270 hp.—and because of frequent renumberings and transfers.

Incidentally, SP is the world's largest owner of EMD units, more than 1300, followed closely by the Santa Fe, with a few less than 1300. New York Central and Pennsy, respectively, are third and fourth on the list.

Saturday, June 14—ERA, New York Div., sponsors main-line fantrip over Jersey Central, Lehigh & New England, and Erie. Leave Jersey City (CNJ Terminal) on CNJ, then L&NE to Maybrook Yards, finally Erie to Hoboken. Many photo stops. Details from ERA, 145 Greenwich St., New York 6, N. Y.

Saturday, July 19—Same group sponsors trip over the New Haven's electrified lines incl. freight line over Hell Gate Bridge to Bay Ridge.

Living in Hawaii, Craig Cartwright, 1122 Kaumailuna Pl., Honolulu, writes: "Out here, the remoteness of railroads requires me to rely on your magazine to keep up with them. I came from Celina, O. Your Nickel Plate roster (April issue) evoked happy memories." (Printer's error in NKP roster listed incorrectly the wheel arrangements of ARX-18A and AP-20A, which should be C-C and A1A-A1A respectively.)

No. 19 (April issue, page 13) is one of two almost-identical locos owned and operated by Preston RR., according to George H. Deike III, Rte. 5, Columbia, Mo., the other being No. 18. Both were bought second-hand from the Virginia Northern.

Sunday, June 15—NRHS, Roanoke Chapter, sponsors N&W trip, Roanoke to Crewe, Va., covering freight-only Lynchburg Belt Line and Pamphlin cut-off with 100 series non-streamlined steam loco, coaches, gondola. Adults $7.50, children $4. Contact O. H. Borsum, 2741 Lansing Drive S.W., Roanoke, Va.

Boomer fireman-brakeman L. H. Rich, 213 Syme St., Sharon, Pa., now 80, retired, has accumulated about 20,000 railroad pictures (some actual photos, others clipped from magazines, etc.), 1400 streetcar pix, 33 scrapbooks. He ran away from home at age 12 to become a news butcher and has been in five train wrecks.

PTC roster (April) listed 5-ton crane on Market-Frankford Division as T-2. It should have been T-6. Grinder is T-15. Three other pieces of M-F work equipment not listed are T-8, an unnumbered tamping machine with air compressor; T-7, a motorized trailer supply car, and T-19, a blind motor flatcar ex-69 (a passenger car) which is used with T-1.

T-15 is the former Cincinnati, Newport & Covington No. 325, while T-1 came from Reading Traction & Light. Broad Street grinder is W-56; wreck car is T-17.

Labor Day week-end—Valley & Siletz RR. trip in Oregon mts. from San Francisco Bay area. Write Central Coast Ry. Club, P. O. Box 783, San Jose, Calif.

July 27—Ry. His. Soc. of San Diego sponsors trip to San Bernardino via L. A.; inspect Santa Fe shops and obsolete equipment. Write L. W. McCleary, 5805 Estelle St., San Diego.

July 27 and Sept. 21—Rail picnics sponsored by R&LHS, Pac. Coast Chapter. Contact Don Thrall, 610 Arlington, Berkeley, Calif.

Aug. 23-Sept. 1—*Caribou County Spl.*, 10-day round trip San Francisco to Prince Rupert, B. C., auspices WP and fan clubs. Fare, incl. meals, all other costs, $295 up (child $210 up). Contact Western Pacific RR., 526 Mission St., San Francisco, Calif.

Wm. Helmer, Agricultural & Technical Institute, Morrisville, N. Y., researching for NYO&W book, wants NY&O info., incl. personal experiences.

NRHS sponsors Europe rys. tour; lv. N.Y. by air Sept. 8, back in city Oct. 1; total cost $1035. Contact Lanseair Travel Service, 1026 17th St., N.W., Washington, D. C.

Engines shown on page 6, June issue, were standard gage, not narrow gage, says ex-boomer Hiram Elkins, 1022 W. 52nd St., Los Angeles, who was working on the D&RG in 1911 when the picture was taken.

Steve Maguire wrote to a reader in Canton, O., (we won't mention name) on March 17, 1945, asking for certain data and pictures. The reply arrived nearly 13 years later, dated Feb. 21, 1958, attributing the delay to a long list of personal problems.

Week-end, Aug. 30-Sept. 1—NRHS annual convention, Toronto, Canada; trips, inspection tours. Contact NRHS Convention Committee, 840 Potomac Ave., Buffalo 9, N. Y.

T. Cott, *The Shrubbery*, Kilcock, County Kildare, Ireland, will buy *Railroad Man's Magazine* for March thru May, 1907; March '12; Aug. '14; and weekly issues Dec. 14, 21, 1918; all 1919 issues. Also *Railway Progress*: April, Aug., Dec. '55. Also long list of *Modern Railroads*, 1946 to date. Also rr. picture postcards, all kinds, used or unused.

Secretary of State Dulles told friends on his 70th birthday that as a boy he often wished he could ride or drive New York Central engine 999, a speed-record holder. Reading about this, Central Vice President L. W. Horning presented Dulles with a model of the 999 and invited him to ride a Central locomotive.

Week-end, July 4-6—Cincinnati RR Club sponsors N&W tour, 1262 miles between Cincinnati, O., and West Jefferson, N. C. Fare, incl. hotel for one night and box lunches, $45.25. Contact Frank Veith, 3505 Mozart Ave., Cincinnati, O.

This request comes from a crippled railfan, H. A. Gregg, P. O. Box 14, State Mines, Brakpan, Transvaal, South Africa: "I would like to get old issues of *Railroad Magazine*, any issues at all. Due to import restrictions, I can't get a permit to send money out of the country to buy such magazines. Maybe some reader could spare old copies."

Using RDC's for the first time, Chesapeake & Ohio has cut 70 minutes off its Newport News-Charlottesville run and 20 off its Newport News-Richmond run, reports Bill Warden.

C&O's unlucky number is 176. Each year, for 3 years in a row, exactly 176 C&O employes died from all causes.

About the time this issue of *Railroad* hits the stands, the expanding Pacific Great Eastern may reach both Dawson Creek and St. John, B. C., writes C. T. Steeb. We'd like to have been there March 12th when the first PGE train entered Chetwyn Jct., B. C. As part of the celebration the local hotel served meals free to all comers.

Labor Day week-end—Pac. RR. Society sponsors Grand Canyon tour. Special Santa Fe train lv. L. A. 9 p.m. Fri.; parked at Canyon for free occupancy Sat. and Sun. Lv. Sun. night for lumber co., ride steam-hauled open gons. Ar. back L. A. 6 a.m. Tues. Fare, incl. meals, $65 up. Capacity limited. Contact E. Marks, Box 5279, Metropolitan Station, Los Angeles 55, Calif. ●

STEAM POWER

STEAM in the Northwest is exceedingly rare. Tim Kaufman says the situation was as follows at the end of January:

UP: 2157 2-8-2; 5316 2-10-2 dead at Portland.

SP: None in Oregon.

GN: None in Oregon and Washington.

NP: At Auburn: 2-8-0 1262, 2-8-2 1365, 167, 1679, 1706, 1776, 1826, 1904, 1906, 1708, 1728, 1821. 2-6-2 2425. At Seattle: 0-6-0 1053, 1074, 1132. 4-6-0 1372. 2-8-2 1679, 1675. 2-6-2 2451. 4-8-4 2601, 2604. At Everett: 0-6-0 1111, 1123. At Centralia: 2-8-2 1693, 1780, 1802, 1804. At Yakima: 1265.

Fewer than 1,000 active steam locomotives are left in U. S. Norfolk & Western data on page 38. *Maybe* Union Pacific will be fully dieselized this summer. Even the fabulous 7000 hp. "Big Boys," which won fame on Sherman Hill, are now in mothballs. We don't know if they'll ever run again.

District of Columbia still has a live steam engine, only one, an 0-4-0T which brings carloads of coal from B&O Shepherd's Landing to St. Elizabeth's Hospital, half a mile and returns the empties, report Lt. Comdr. Lester Harlow, 5901 Paul St., Alexandria, Va. She is a good subject for photo fans.

Peninsula Terminal RR. is operating two 2-6-2T's, Nos. 103 and 104, at North Portland, Ore., these being the only live steamers in the area, reports W. R. Grande, secretary of the Pacific Northwest Chapter of the National Railway Historic Society.

FEC steam loco 153 runs every Sunday afternoon over 3½-mile track on Univ. of Miami south campus, 9 miles south of Miami, US Hiway 1. All fans welcome to ride and photograph her. Details in our Dec. '57 issue or write Lois Beekman, asst. secretary, Miami RR. Historical Society, Box 8033, Miami 46, Fla.

A report on South America comes from Ernest Snow, S/S *Santa Ana*, c/o Grace Line Inc., New York City. He says that recently at Ilo, Peru, he saw a Baldwin Mikado, a Rogers Mogul, and a Vulcan saddle-tank, all in good shape,

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stored in a roundhouse on the railway of Southern Peru Copper Co., which is operating four diesels. The steamers have not been used in 27 years and will all be scrapped. He also saw an English-built narrow-gage 0-4-0 saddle-tank engine with outside frame, named *Leonor*, in poor condition.

As steam vanishes from North America, sound recordings of steam engines and trains are becoming harder and harder to get. Among the latest and most popular of those available is *Rods, Wheels and Whistles* (12-inch LP, $4.95), issued by North Jersey Recording Associates, P. O. Box 2, Maplewood N. J. The "Associates" are John Briggs, Dave Swindells, Art Bird, and Don Van Court, all members of the Railroad Enthusiasts, New York Division.

"John and I nursed the idea of making that record for more than a year before it actually appeared," says Dave. "Out in the country, where we operated, it was not always easy to obtain electric current for the recording. Once we plugged into a trackside gas station at Red Bank, N. J., and later into an empty Norfolk & Western depot at Blue Ridge, Va. On the latter occasion Assistant Trainmaster W. R. Jackson obtained a key and opened the station just in time for us to record a double-headed freight climbing a grade. When we went to Long Branch, N. J., a baggageman there said we'd have to get the dispatcher's permission to record!

"We lost time because we had to shut out extraneous noises such as those of an auto repair shop, small children, barking dogs, yowling cats, shrill cicadas, a noisy horse-fly, and even grunts from a pig-sty."

RAILROADIANA

ITEMS in this section are printed free, in good faith, but without guarantee. Word limit 28, except entries dealing with back numbers of our magazine. Address Sy Reich, *Railroad Magazine*, 205 East 42nd Street, New York 17, N. Y. Write very plainly.

Use abbreviations. For example, *tts* (public timetables) and *emp. tts* (employes' operating timetables).

Because of the time it takes to edit, print, and distribute our magazine, this department closes at least ten weeks before it will appear on the newsstands.

SWITCH LIST

JOHN AARDEMA, 114 16th Ave., Paterson, N. Y., wants pix PSNJ 547 of Ft. Lee, Hdson Riv., Hackensack and Englewood lines. Must show rte. deck signs broadside.

HENRY ALVARADO, 2339 64 Ave., Oakland, Calif., will buy Interurban Specials 1, 3, 9 supp. 1 to 3.

C. T. ANDREWS, 1502 Lehigh St., Easton, Pa., will buy pix LV 1116-1120. Sells, trades pix LV, other rrs. List free.

DICK AULETTA, 154 Strattford Rd., New Hyde Pk., N. Y., wants info., pix, tts. of subways, els.

RAY AYERS, 1113 E. Center St., Kingsport, Tenn., sells PRR lanterns $5 ea., Pennsy, N&W pix; list free. Wants steam action negs., any rr.

BOB BAIN, 1302 Geranium St. N. W., Washington, D. C., will sell, express collect, 1896 Baldwin bldr's. plate from Ches. Bea. Ry. 4-6-0 No. 7.

DON BENTON, 628 Placentia Ave., Placentia, Calif., sells 35mm color slides Disneyland RR, D&RG steam at Knott's Berry Farm, SP diesels.

H. BLON, Box 122 BU Sta., Waco, Tex., will sell BR&P 4-wheel caboose with wheels; H&TC emp. tt. 31, 1871.

REGGY BOUCHER, 10147 Garnier St., Montreal, Que., Canada, trades transfers.

MIKE BOYANS, 74 St. Marks Pl., New York, N. Y., wants rr. pix; also pen pal.

H. J. BROOKS, 171 Keewatin Ave., Toronto, Canada, will buy 8mm steam movies.

W. BROSCHART, 132 E. Marie St., Hicksville, N. Y., buys, trades negs., pix, trolleys, buses, ferries, rrs., NY, NJ, New Eng. area 1920-'40.

Back-yard railroads are fun to build and even more fun to operate. Francis LeClair built this little pike about 3½ miles south of Keene, New Hampshire.

Second section of Union Pacific's *Portland Rose*, eng. 3138, entering tunnel near Boise, Idaho, in 1937.

Henry R. Griffiths, Jr.,
821 Houston Rd., Boise, Idaho

G. H. BURGER, 357 S. Park Ave., Fond du Lac, Wis., sells 2x2 black and white slides, Soo Line.

H. J. BURKHALTER, 28 Fleming St., Auburn, N. Y., will sell 1879 newspaper with NYNH&H tt. to White Mts., SSW land grant ads.

G. Cater (employee of New South Wales Govt. Rys.), 2 Bath St., Thirroul, N. S. W., Australia, wants info. on North American rrs.

HERB CEARLEY, 706 W. Caldwell, Compton, Calif., trades 35mm Kodachromes elec. lines; also diagram books. List for 3c stamp.

LARRY COHEN, 2155 Grand Concourse, New York, N. Y., sells size 616 steam negs., 616 and p.c. cameras. Wants steam movies.

DAN CROTTY, 1155 Shenandoah Rd., San Marino, Calif., will sell steam turbo generator from scrapped AT&SF 3760, good cond., $45 fob Passadena.

LU CUMMINGS, Jr., 129 Nevin St., Lancaster, Pa., buys, sells, trades sizes 116, 620, 3½x5 pix, transfers, trolleys of Okla. and Pa.

OWEN DAVIES, 1214 LaSalle St., Chicago, Ill., sells back numbers Railroad Magazine, Trains, railroadiana. Big list free; specify your interests.

HOWELL DAY, 300 Vail Ave., Dunellen, N. J., wants Dec. '29 Railroad Magazine; also info. on old inspec. locos.

MAUREEN DOLAN, 611 Centre St., Newton, Mass., wants 35mm color slides G&U elecs., B&A steam.

R. P. DUNN, 201 Avon Ave., Newark, N. J., will buy pix, info. Tuckerton RR. and Phila. & Beach Haven RR.

GEO. EDGAR, 340 Ramepo Valley Rd., Mahwah, N. J., wants 1928 Off. Guide.

TERRY ELAND, 2956 S. Sheridan Blvd., Denver, Colo., will sell 8mm color movies C&S steam.

CHAS. ESTERMAN, 123-02 23 Ave., College Pt., N. Y., wants Interurban Special 13 PE roster and supplements 2 and 3; also 35mm color slides Vgn. elecs.

DICK FAGAN, 75 Hedden Terr., North Arlington, N. J., sells PRR steam, diesel, elec. pix.

G. J. FALTICO, 3130 W. Rosamond, Spokane, Wash., buys, trades pix, diesels, steam, Western and Northern rrs. Buys railroadiana. List for 3c stamp.

JOE FELIX, 208 Pleasant St., Roseville, Calif., sells tokens. List for 3c stamp.

N. F. FORD, Box 207, Whitford, Pa., selling over 100 size 116 negs., mostly Eastern steam, over 100 other prints; best offer.

G. S. GATEY, Box 56, Virden, Man., Canada, will sell "Ry. Track and Structures Cyclopedia," 8 ed., $9.

E. K. GIBSON, 542 Whitney Ave., Louisville, Ky., will sell pen and ink drawing Sou. 6482 or IC 2539. Wants IC assignment sheets, slides, pix.

BILL GILL, Ranger-Naturalist, USNPS, Death Valley National Monument, Calif., wants info., pix Death Valley RR and Tonopah & Tidewater.

ROGER GILLIS, 975½ S. Williams St., Denver, Colo., will buy Poor's "Denver, South Pk. & Pacific."

TOM GRAHAM, 127 Cottage St., Jersey City, N. J., sells rr., trolley pix. List, sample 10c. Trades, buys negs., slides.

WALT GRANDE, 911 Equitable Bldg., Portland, Ore., wants to hear from those who'd like to form NRHS Chapter in Puget Sound area.

J. A. GROW, 1330 Sesom Dr., Decatur, Ill., sells pix, negs., tts., tr. orders, passes, histories, Colo. rrs., 1870-1939. List for stamped env.

ERLE HANSON, 952 36 St., Richmond, Calif., sells 5x7 pix SF Bay ferries, old steam locos CP, SP, AT&SF, NWP, NPC, SPC. List, sample 10c.

GRAHAME HARDY, Carson City, Nev., sells old issues Railroad Magazine, Trains, rr. books, other railroadiana. Big list free.

GEOFF HORNE, Box 343, Revelstoke, B. C., Canada, wants size 116 negs. CPR, CNR.

RALPH HULL, 223 Enola Rd., Enola, Pa., wants stereoscope views and postcards of old rr. and trolley scenes.

BOB HUNGERFORD, Jr., 327 Middletown Ave., Wetherfield, Conn., buys SR&RL pix, tts., tkts., passes, blueprints, relics.

WALT JAHRKE, 1459 N. Paulina St., Chicago, Ill., trades CTA transfers, tokens, maps for those in other cities.

ARNOLD JOSEPH, 2512 Tratman Ave., New York, N. Y., sells back issues Railroad Magazine, Trains, other mags. Lists for stamped env.

TIM KAUFMAN, 534 SE 70th, Portland, Ore., trades tr. orders, collects bldrs. nos. steam diesels. Sells pix UP steam, diesel.

KARL KOENIG, 806 Peninsula Ave., Burlingame, Calif., wants pix, info. SP 4454, C&OCL.

WM. KOENIG, 1004 W. 8th St., Erie, Pa., will sell or trade dupl. 35mm steam color slides NKP, CNR, Pennsy, B&O, N&W.

JOHN KRISKEY, 179 N. Water St., Byram, Conn., trades NYC, NYNH&H size 120 color, black and white negs. Also buys any steam negs.

OTTO KUHLER (formerly Railroad Magazine cover artist), KZ Ranch, Pine, Colo., sells South Park book ends, other mementos made from old Colo. n.g. rails. Free folder.

DICK LIND, 3514 N. Fremont Ave., Chicago, Ill., sells 5x7, 8x10 pix B&O, CB&Q, D&RG, IC, NYC, NKP, NP, UP, WAB steam. List for 3c stamp.

PETE LUNDELL, 613 Pine Ave., Warren Pt., N. J., wants pix NYS&W steam, also Erie steam on Bergen cut off.

BOB LYON, 3 Locust Ave., Bayville, N. Y., will buy any size pic PRR speed king 7002.

BILL MADDOCK, 71 William St., Lyons, N. Y., will buy NYC steam pix; also any 8mm steam movies.

AL MAGARY, Box 484, Phillips Exeter Acad., Exeter, N. H., buys tts., Off. Guides, short line emp. tts.; trades recent tts.

JIM MALONE, Jr., 3812 N. Alta Vista Terr., Chicago, Ill., will buy St. Louis Globe-Democrat rapid transit articles, fall of '57.

BILL MATHEWSON, Jr., 410 W. Windsor St., Reading, Pa., sells Railroad Magazine, Trains, pix steam and diesel pix.

TOM MAUCHUTER, 212½ S. Main St., Aberdeen, S. D., wants pix, info. saddle-tank steam engines.

JOE McMILLAN, Box 941, Yorktown, Texas, buys, trades US, foreign tr. orders.

(Concluded on page 82)

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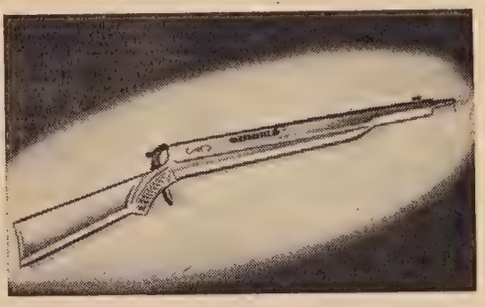

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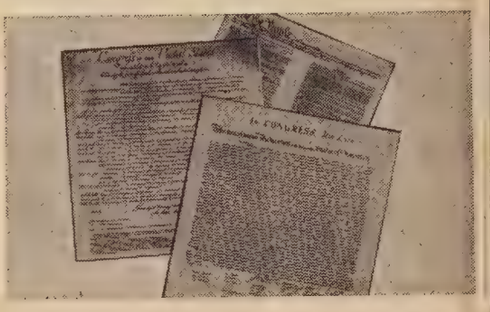

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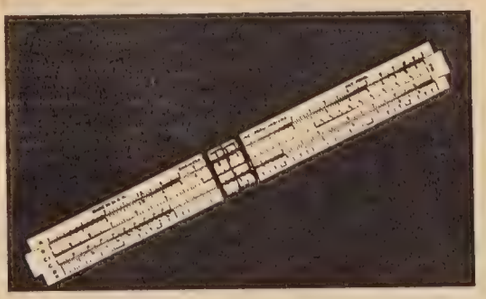

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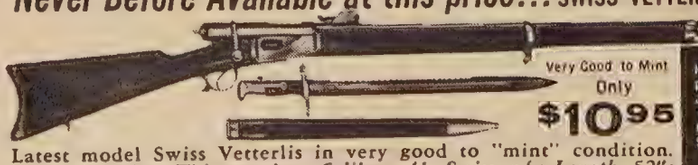

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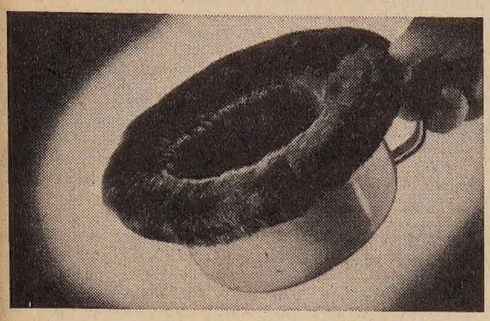
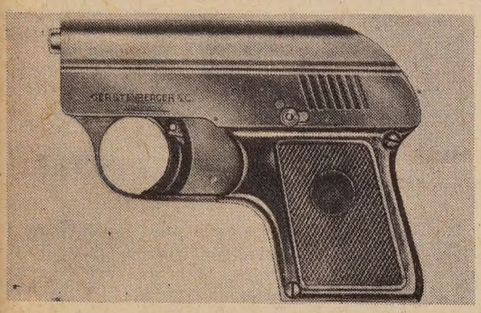
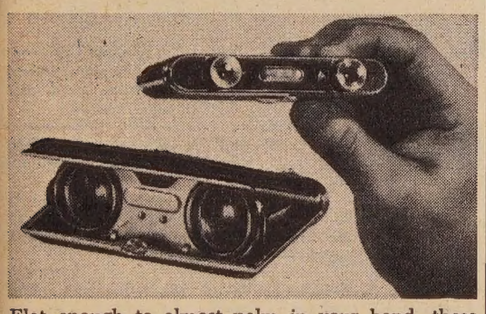


Folks that make this beauty say it's the ideal gift for a guy who has everything. We've heard that before, but this time he may have something. Yep, it's the proverbial fur-lined potty (with real fur, no less) that ought to get a chuckle out of anybody. Makes a dandy TV seat. $3.95 ppd. Lincoln Products, 411 Lincoln Bldg., N. Y. 17.



Here is a brand new blue-steel .22 cal. blank cartridge German automatic, clipload 6 shot repeater. Safety catch, self ejecting clip. Adjustable firing spring. Ideal for sporting events, theatrical performances. Made in West Germany. Measures 4" long. For $7.95 ppd. Big Three Enterprises, Dept. AG-10, 1109 Sixth Ave., N. Y.



Flat enough to almost palm in your hand, these imported optics measure just 4x2½x½", yet are a full 3 power glass with a wide and sharp field of view. Coated lens, adjustable focus, shatter-proof case. Size makes it handy for sports, peeping, etc. $4.95 ppd., and a buy! Chabon Scientific, 60 East 42nd St., N. Y. 17.

One of the easiest and least expensive ways to recondition your car's engine is to drop a pair of these Motaloy tabs in your fuel tank. You'll get increased compression and a ring and valve job as Motaloy replates worn engine parts. Increases mileage, cuts oil-burning. $6 ppd., Olson Co., Dept. A-S, Texas Bldg., San Antonio, Texas.

THE PIPE SMOKER'S DREAM COME TRUE

Every Pipeful Proves . . .

- NO BREAKING IN!
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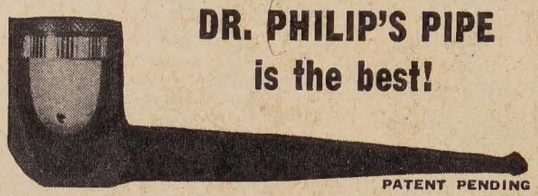

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The ideal pipe for the STEADY SMOKER and especially the NEW SMOKER. Smokes dryer, cooler, cleaner. Ceramic bowls are interchangeable. Each pipe comes with FOUR extra bowls!

SHORT SMOKE MODEL ONLY $4.50
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(Both come with four extra bowls)

If not satisfied that this is the most amazing pipe you have ever owned, return within ten days and your money will be refunded!

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Please send me postpaid ..... Dr. Philip's pipe(s).
I enclose $..... to cover the cost of the pipe I have checked below.

☐ **SHORT SMOKE MODEL plus 4 EXTRA BOWLS @ $4.50**

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(Sorry, no C.O.D.'s)

BRITISH JUNGLE CARBINES

$24.95

Never before offered!

ALL NEW DOCK ARRIVALS!

FREE WITH ANY ORDER—New book, "FUN AND PROFIT IN GUN COLLECTING"

(Stock #R52A)

BURMA!

.303 Caliber Jungle Carbine Enfield No. 5 developed for rough usage and bitter fighting in jungles of Burma, Borneo and Malaya. Very good condition. Sold previously high as $100. Special refinements that give distinctive silhouette are *Jungle flash hider, sporting rifle type stock,* and *built-in rubber butt plate!* Precision calibrated Enfield sights. Only military weapon ever made with lines, and fast handling qualities of a modern sporting rifle. 10-shot bolt action repeater. *100 rds. Mil. Target ammo, $7.50; 20 rds. Softnose Hunting ammo, $2.95.* For extra select carbine add $5 (Stock #R52B).

DUNKIRK! LEE ENFIELD POWERFUL .303 Cal. **$13.95** (Stock #R7H)

This is the "British Springfield" that fought WWII from Dunkirk to Singapore and back through Normandy. Late prewar mfgr. All milled parts. Superb accuracy. Fastest bolt action. 10-shot mag. 25" Bbl. Approx. 8½ lbs. For extra select gun add $5.00 (Stock #R7J). 100 rds. .303 Mil. target ammo, $7.50; 20 rds. Softnose ammo, $2.95.

SUPERB M96 SWEDISH ARMY RIFLES $22.50 (Stock #R44A)

Famous Mauser Action with Swedish precision refinements. 6.5MM Caliber 5-shot bolt action. Most sought after of European service arms. Most accurate of all Mauser rifles. 29" Bbl. 6.5 MM Swedish ammo: 100 rds. Mil. target, $5.50; 20 rds. Softnose hunting, $2.95. For select gun add $5.00 (Stock #R44B). Leather sling, $1.95.

SCOTLAND YARD SPECIAL $12.95

Stock #X25A
.32 ACP Webley & Scott Metropolitan and Police Model Automatic with 5" bbl. Very accurate. Very Good Cond. For SELECT specimen, add $5 (Stock #X25B). Ammo at all gunstores.

.38 CAL. SMITH & WESSON Military & Police Revolver

$24.95
World's most popular handgun. Very Good cond. Add $5 for specially selected exterior (Stock #T5B). Brown top grain cowhide, flap-top belt holsters, used V.G., $2.95. U.S. made ammo at all gunstores.
Stock #T5A

NAZI AUTOMATICS

$24.95
Stock #X11C
Mauser Military Automatic. First line German and Nazi issue. V.G. cond. A $50 collectors' handgun. YOUR CHOICE OF 9MM (LUGER) CALIBER or 7.63MM MAUSER CAL. Both calibers ammo are made in U.S., bought in every gunstore.

ARMY COLT .45 AUTOS

$34.95
Stock #X14C
.45 Cal. Colt M1911 Automatic pistols. The blockbusting standby of the Army and the Marines in three wars. Guar. V.G. WE HAVE A FEW MINT (BRAND NEW) .45's at $39.95 (Stock #X14D). Ammo at all gunstores.
ACCESSORIES: .45 Auto extra clips, $1.75 ea.; Mag. pouches new, 95c ea.; Leather holsters, new $3.95, used V.G. $2.45; Web pistol Belts, $1.95.

TO ORDER HANDGUNS Enclose signed statement, "Am not alien, never convicted of crime of violence, am not under indictment or fugitive, am 21 or over." Mass., Mo., Mich., N.Y., N.J., N.C., R.I., Omaha, New Orleans, require permits — enclose with order. Send check, cash or M.O. ½ deposit on C.O.D. Pistols shipped R.R. Expr., F.O.B. Pasadena, collect. Calif. resid. order thru local dealer only.

ORDER BY STOCK NUMBER FOR FASTER SERVICE

TO ORDER RIFLES, ETC. Send check, cash or M.O. For C.O.D. send ½ deposit or more. All items shipped F.O.B. Pasadena Expr. charges collect. Calif. resid. add 4% state tax. 10-DAY MONEY BACK GUARANTEE ON ALL ITEMS.

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GOLDEN STATE ARMS CORP.

386 W. GREEN ST., PASADENA 41, CALIF.

"Chow Stop at Como," on old narrow-gage South Park Line in Colorado Rockies, from a watercolor by Otto Kuhler (who has painted *Railroad Magazine* covers), KZ Ranch, Pine, Colo. The artist offers full-color reproductions of this dramatic scene suitable for framing, limited edition, signed with his own and the recipient's names, $7 each. Picture itself is 12x15 inches, overall size 20x24.

AL MILLER, 3212 34 Ave. S., Minneapolis, Minn., will sell C&NW tts., emp. tts., passgr. tariffs, GN emp. tts., Chicago RR. Fair 16mm film. List for 3c stamp.

ART MILLION, 723 S. Karlov Ave., Chicago, Ill., wants pix, passes, tts., C&WM, F&PM, DGR&W: also diagram books PM.

CHAS. MOCKBEE, 1573 Bowman Ave., Dayton, O., buys C&LE tts. '30-'36, any size pix NYS&W railcars.

J. F. MONHOFF, 524 E. Marigold St., Altadena, Calif., sells tts., emp. tts., Offi. Guides since 1949.

R. G. NUGENT, 243 Main St., Dansville, N. Y., sells size 116 negs. Eastern rrs., Off. Guides '55 to present.

GERALD OLSEN, 921 Essex Ave., Linden, N. J., buys pix size 5x7 or larger BRT trolleys 1892-1930.

RAFAEL OODOL, 34 M. Ouiner, Igualada, Espana, Spain, will sell 100 European rr. mags., 15 tts. $70 postpaid, registered.

GEO. PAPUGA, Jr., 4 Martin Rd., E. Haven, Conn., sells Conn. Co. transfers. List for 3c stamp.

RAY PEARSON, 113 Sinclair Ave., Staten Island, N. Y., sells tts., emp. mags., books, Railroad Magazine, Trains, Railroadiana. List for 3c stamp.

JIM PELLAM, 3615 Milford Ave., Baltimore, Md., will buy WM steam pix, negs.

D. PEREZ DE LEON, Ave. Chietla 716, Col. La paz., Puebla, Pue., Mexico, will sell back issues of Nat. Rys. of Mexico magazine, Ferronales, 128 pages, 20c.

BOB PESSEK, Box 137, RR 2, Hutchinson, Minn., will buy Trains Album 15, steam wreck pix.

DON POPE, 30 N. 13 St., Richmond, Ind., buys any size pix PRR Q1, Q2, S1, S2. Sells 116 size pix PRR K4, J1, H10, T1, 11, M1, N2, B6.

JACK PRIESTLEY, 947 E. 13 Ave., Vancouver, B. C., Canada, wants local B.C. and Wash. State emp. tts. CNR, CPR, GN, NP.

H. N. PROCTOR, 3rd Support Det. (7823), APO 39, New York, N. Y., sells size 616 negs, German, US steam, diesel, elec., trolley.

JOE QUINN, Box 24, Tillson, N. Y., buys, sells, trades steam negs, pix. List for 3c stamp.

E. RICHTER, Congers, N. Y., will sell 400 loco pix size 620 to 8x10, also Trains '45-'57 good cond.

JIM RONAN, Rt. 1, Box 1-C, Nunica, Mich., will sell Railroad Magazine '40-'57, Trains '44-'56; good cond. List for 6c in stamps.

LOWELL ROTT, RR. 2, Box 55, Lemont, Ill., wants CERA Bulletin 96, Interurban Specials, rr. books, magazines, pix.

WM. RUSSELL, 402 Rochelle Ave., Wilmington, Del., trades size 616 negs. and 35mm Kodachrome originals steam B&O, ON, CP, IC, NdeM, NKP, N&W, PRR, Rdg.

DICK SAMUELS, 2215 Harrison, Milwaukie, Ore., wants original SP switch key (CS4-S), SP maint. of way Eagle key with JNHFW on head.

JOE SCHMITZ, 3420 Walnut St., Huntington Pk., Calif., will trade steam tape recordings, AT&SF, UP, IC, SP, B&O, N&W, PRR. Will buy steam negs. C&O, NYC.

AL SCHREIBMAN, 55 Linden Blvd., Brooklyn, N. Y., wants PCC pix.

FRANK SEIFFERT, Box 21, Orange, N. J., sells pix, steam, diesel, elec., trolleys. Either rr. or trolley list 2 pix 25c. Both lists 3 pix 40c.

JOHN SILVA, S. del Carril, 1880, Santa Fe, Argentina (teaching loco engrs. school), would appreciate receiving rr. mags., any kind, new or old.

DICK SENDERAK, you gave no address.

R. A. SLATER, 42 Waller Ave., White Plains, N. Y., will trade SP cab-in-front 8mm movies for NYNH&H, NYC elec. movies.

BEN SMITH, 265 Tompkins Ave., Brooklyn, N. Y., will trade Railroad Magazine '30-'55, Mdl. RRer '34-'54, RMC '33-'53, Mdl. Bldr. '37-'49 for Loco Cyclopedias, rr. calendars.

WES STEAD, Box 592, Effingham, Ill., wants Beebe's "Trains in Transition." Will sell, trade Farrington's "Railroading from Head End."

DON STEFFEE (compiler of passenger-train speed surveys), 512 8 Ave., Brooklyn, N. Y., will sell emp. tts. '46-'56. List for 3c stamp.

TOM STENQUIST, 429 S. Craig Pl., Lombard, Ill., wants anything from C&AE. Sells size 620 pix C&AE; list free.

AL STOKES, 3958 S. Hill St., Los Angeles, Calif., buys steam pix H&TC, HE&WT, ML&T, LW, GH&SA, SA&AP, NYT&M, SA&MG, T&NO.

JOE STRAPAC, 716 S. Chester Ave., Compton, Calif., sells size 6x10 SP steam pix, 35mm Kodachromes, steam, elec.; also VGN roster. List for stamped env.

F. TAYLOR, 4740 University Way, Seattle, Wash. buys color pix modern std.-gage locos, trains.

DICK TESCH, 6853 N. Northwest Hy., Chicago, Ill., sells size 616 pix elec. rys. List for 3c stamp. Wants size 616 trackless trolley negs.

DON WALKER, 2811 Cole Ave., Dallas, Tex., will buy pix trolleys, tracklesses trolleys.

PAUL WARD, 121 San Marcos, San Francisco, Calif., wants pix, info. catalogs, negs. tracklesses, trolleys. Will trade MSRy rules.

L. D. WEBSTER, 811 N. Green Ave., Lake Worth, Fla., sells emp. tts., tts., rr. literature.

JOHN WEIGHTMAN, Box 696, Sacramento, Calif., will sell size 124 pix, PG&E rope brake and air brake trolleys.

ART WEILAND, 15016 Schuyler Ave., Cleveland, O., sells emp. tts. List for stamped env.

G. R. WILLIAMS, you gave no address.

CHAS. WROBLESKI, R 331 Gibson St., Scranton, Pa., wants pix, negs., transfers, tkts. Scranton trolleys.

W. V. ZIKIAS, 87 Circle Dr., Greenwich, Conn., will sell Railroad Magazine, Trains, model mags. '50 to date, good cond. List for 3c stamp.

WALT ZULLIG, 475 Oak Ave., Mayood, N. J., wants pix, 35mm slides NYS&W.

MODEL TRADING POST

H. R. ASHLEY, 50 Saratoga Ave., Yonkers, N. Y., will sell Lionel 381E std.-gage loco, etc.

R. BINERT, 452 S. 13 St., Newark, N. J., wants Varney, Winton locos, Mantua 2-8-0.

BOB HANSEN, 6045 W. School St., Chicago, Ill., will sell Mdl. Craftsman, 130 issues, Vol. 1 No. 1 to July, '50.

DELBERT HENNINNGER, 246 Jefferson St., Tiffin, O., will sell O gage Hines Mike, scale frt. cars, catalogs, mdl. mags. List for stamped env.

WES LEATHEROCK, 2403 Indian Trail, Austin, Tex., will sell 072 solid rail track, switches, locos, cars, access., or trade for HO gage. List for 3c stamp.

D. B. MANLICK, 3102 Apt. 1 Peto St., Manitowoc, Wis., will sell AF HO gage Alco switch, good cond. $18; also Lionel articles. Trades mdl. passes.

AL MILLER, 3212 34 Ave. S., Minneapolis, Minn., wants Lionel std.-gage Nos. 5, 6, 7 steam types; also 392, 400E locos.

ART MILLION, 723 S. Karlov Ave., Chicago, Ill., wants HO gage Central lines 75' coaches, 3 Walthers 70' baggage cars, kit or built up.

PEARL NICHOLAS, RR. 4, Emporia, Kan., wants model. UP steamer 1' long.

O. A. PARRIS, 1019 13 St., Bremerton, Wash., wants OO gage Nason 2-8-0 tender, Scalecraft class H tender, 10-wheel chassis.

LOWELL ROTT, RR 2, Box 55, Lemont, Ill., will sell or trade HO gage equip., HO and O gage Plasticville, new.

JOHN ROUGEAU, 67 Main St., Bridgeboro, N. J., will sell AF S gage Atlantic $5, Pacific $10, Hudson $12, all with tender and running.

M. K. SMART, RD 2, Spring Mills, Pa., will sell O gage scale equipt. 10 locos, 75 cars, or trade for 1½" live steamer. List.

BEN SMITH, 265 Tompkins Ave., Brooklyn, N. Y., will sell Ives, Dorfan, Boucher, Voltamp, cars, loco equip.

F. C. SOUHRADA, 638 S. Linden Ave., Bellwood, Ill., will sell Lionel 027 gage engine, cars, track good cond. List free.

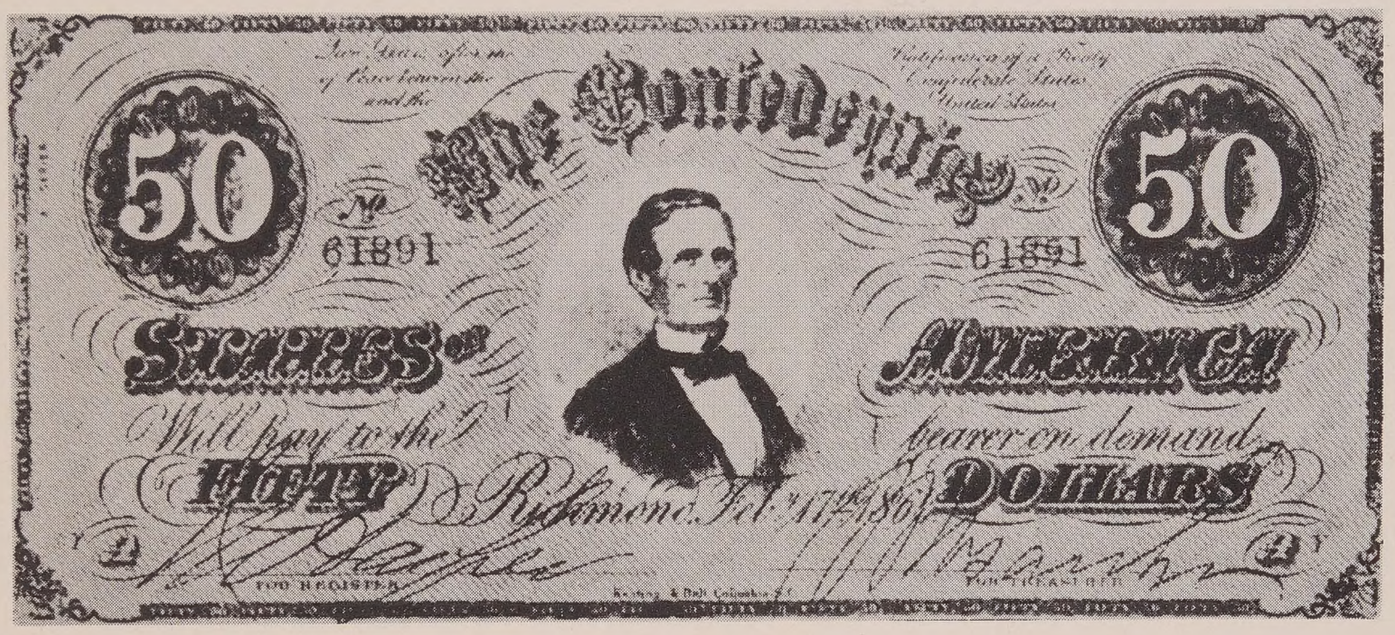
BRUCE WELLS, Box 290, Norton, Va., will sell H gage cars, power pack.

WM. WOODS, 1101 W. Addition St., Martinsburg, W. Va., sells HO gage mdl. equip. List for stamp.

ONE MILLION DOLLARS CASH

IN CONFEDERATE MONEY

Yours only $2.98



$1,000,000 IN CONFEDERATE MONEY

Be a deep south millionaire! Have money to burn! We'll send you exactly one million bucks in honest-to-goodness authentic reproductions of genuine Confederate money plus bonus special bills—and all you pay is $2.98! You can do everything with this money but spend it. Amaze and amuse your cotton-pickin' friends. Actual size. Win bar bets by the barrel! Light your cigars and cigarettes with $10.00 bills! Live it up! It's a million dollars worth of laughs and fun—all for only $2.98.

You get one million bucks in $10's, $20's, $50's, $100's, etc., denominations —enough to keep your friends laughing and happy for months—This offer is limited. Only 4 million dollars to a customer. Our supply of this loot is limited —so rush your order. . . . One Million dollars only $2.98. Four Million dollars only $10.00. If not delighted keep $100,000 for your trouble and return the rest of the money for a full and prompt refund.. Send to

BEST VALUES CO., Dept. M-397, 403 Market St., Newark, N. J.

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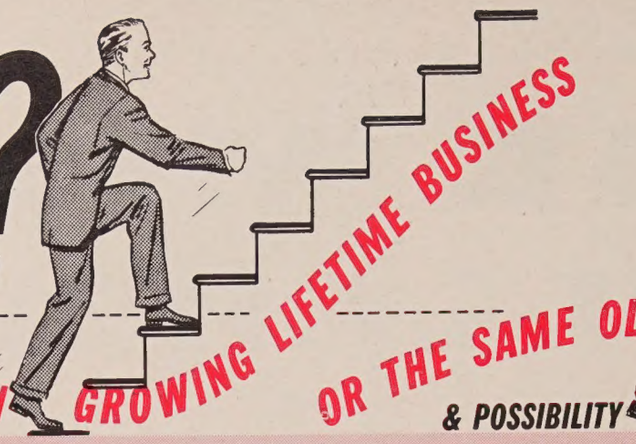

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OR THE SAME OLD SALARY & POSSIBILITY OF LAYOFF

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We'll Train and Establish You to become a home furnishings cleaning expert

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If you've longed for the prestige and financial independence of YOUR OWN business, here's your opportunity to get in on the ground floor of one of today's fastest growing industries—the home furnishings cleaning field. You must, however, be honest, diligent and able to make a small investment in a business we help you build. If needed, we'll help finance you. Business quickly established. No shop needed.

To help assure your success, we'll assign an established Duraclean Dealer to personally train you in YOUR TOWN. He'll reveal the Duraclean System and his successful plan of building business. A staff of experts at Headquarters will work with you continually. When you write, phone or come in, they give you immediate assistance on an individualized basis.

This is a sound, lifetime business that grows from REPEAT ORDERS and customer RECOMMENDATIONS. Alert dealers can gross an hourly profit of $9.00 on own service, plus $6.60 on EACH serviceman.

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In addition to continuous counsel and guidance from the staff at Headquarters, our MUTUAL COOPERATION program gives you 25 regular services: *National Advertising* in House Beautiful, House & Gardens plus dozen others. *Trade Magazine Advertising* to help you secure agencies, *Products Insurance, Copyright, Tested Ads, Musical Commercials, Local Promotional Materials, Conventions, Monthly Magazine* and others.

REPEAT AND VOLUNTARY ORDERS. Demonstrations win new customers. Dealers find repeat and voluntary orders become a major source of income. Customers tell friends and neighbors.

Start Part or Full-Time

A moderate payment establishes your own business—pay balance from sales. We furnish electric machines, folders, store cards and enough materials to return your TOTAL investment. You can have your business operating in a few days. Mail coupon today!

IF EMPLOYED, START PART-TIME

What Dealers Say

W. Lookiebill (St. Louis): My 27th year! Began during depression and built business on good service.

E. Smith (Huron, S. D.): I'm 80 and do all servicing myself. Hotel Tams job brought $850.00.

M. Lyons (Chgo): 2nd year should hit $100,000; 1st was $40,000. Hdqrs help makes it possible.

E. Roddey (Hampton, Va.): Did $600.00 first 12 days in January. My business keeps growing each month.

A. Wilson (Tulsa): Made $1,299 this month working alone. Duraclean outperforms all competitors.

Advantages of Duraclean's Process Win Over Customers

Duraclean's growth to a world-wide service resulted from *customer convenience* plus its many superiorities over ordinary cleaning. Housewives, clubs, hotels, offices and institutions deeply appreciate not having furnishings out of use for days and weeks.

They are thrilled when they see their carpets and upholstery cleaned with a *new consideration for its life and beauty.* Duraclean doesn't merely clean . . . it restores natural lubrication to wool and other animal fibers. Colors revive. The reenlivened rug and carpet pile again stand erect and even. An aerated foam created by the electric Foamovator (left) vanishes dirt, grease and many unsightly spots . . . without scrubbing. Customers tell friends how Duraclean has eliminated the customary soaking, shrinking and breaking of fibers from harsh machine scrubbing . . . how the mild, quick acting foam, lightly applied, provides safety from color runs and roughened fabric they have previously experienced . . . how fabrics look fresher, brighter and look cleaner . . . how convenient it is not to have furnishings gone.

They appreciate the courteous, personalized service of Duraclean craftsmen. Such service is NEWS . . . and it spreads to friends and neighbors. Customers become your best salesmen.

You Provide a Complete Service

A dealership qualifies you to offer **four** other services. Thus on many jobs you **multiply** profits. **Durashield:** Soil-retarding treatment which keeps furnishings clean MONTHS longer. **Duraproof:** Protects against moth damage. It's backed by an International 6-Year Warranty. **Duraguard:** Flameproofing treatment which reduces fire damage. Theatres, hotels, homes offer huge potential. **Spotcraft:** Products which enable you to handle most all spot or staining problems.

Easy Terms

No experience necessary! Some dealers establish shops or an office . . . others operate from home. Service may be rendered on location. Auto dealers buy your Duraclean service to revive upholstery in used cars. Almost every building houses a potential customer needing your services. You enjoy big profits on both materials and labor. We show you 27 ways to bring customers to you.

Mail Coupon—You Get Free Booklets!

"OWN a Business" Coupon

DURACLEAN CO., 8-708 Duraclean Bldg., Deerfield, Ill.

WITHOUT OBLIGATION, show me how I may enjoy a steadily increasing life income in my OWN business. Enclose FREE booklets and free details.

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Address ..... County .....

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FREE Booklets Tell How!

Letter and illustrated booklets explain urgently needed services, waiting market, large profits, PROTECTED territory. Send coupon for free facts today.

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These two important honors conferred on Duraclean give PROOF of your superior services. As a Duraclean Dealer, you will be the only cleaning service in town backed by both these famous seals. No wonder customers buy Duraclean so quickly!

What Manufacturers Say

". . (Duraclean) standards in keeping with service to which . . carpets and consumer are entitled." —*Avisco (American Viscose Corp)*

". . superior to any on-location process with which I'm familiar." —*President, Modern Tufting Co.*

". . we approve this process . . in keeping with better service to Mrs. Housewife." —*Aldon Rug Mills*

DURACLEAN® CO., 8-708 Duraclean Bldg., Deerfield, Ill.